



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Réception des soumissions - TPSGC / Bid

Receiving - PWGSC

1550, Avenue d'Estimauville

1550, D'Estimauville Avenue

Québec

Québec

G1J 0C7

INVITATION TO TENDER

APPEL D'OFFRES

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

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

Soumission aux: Travaux Publics et Services Gouvernementaux Canada

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

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du

fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

TPSGC/PWGSC

601-1550, Avenue d'Estimauville

Québec

Québec

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Title - Sujet Fall Refit CCGS Amundsen	
Solicitation No. - N° de l'invitation F3756-17N272/A	Date 2017-08-31
Client Reference No. - N° de référence du client F3756-17N272	GETS Ref. No. - N° de réf. de SEAG PW-\$QCL-036-17194
File No. - N° de dossier QCL-7-40130 (036)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-09-21	
Time Zone Fuseau horaire Heure Avancée de l'Est HAE	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Gagnon, Mathieu	Buyer Id - Id de l'acheteur qcl036
Telephone No. - N° de téléphone (418) 649-2883 ()	FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: NGCC Amundsen Pêches et Océans Canada Garde côtière 101 boulevard Champlain QUEBEC Québec G1K7Y7 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

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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.) Amundsen during the fall 2017 layouts in the Port of Quebec, 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 (2016-04-04) 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.

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2.5 Bidders' Conference *(Not used)*

2.6 Viewing – Vessel *(Not used)*

2.7 Proposed Work Period

Work is to commence and be completed as follows:

Fall 2017 Work:

Start: October 12, 2017
End: November 9, 2017

Spring 2018 Work:

Start: April 3, 2018, or as per ship availability
End: May 25, 2018, or as per ship availability

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:

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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.

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

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4.1.5 Deliverables after Contract award

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

4.2 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.

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

6.12 Environmental Protection *(Not used)*

6.13 Insurances Requirements

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

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.) Amundsen during both spring 2017 layouts in the Port of Québec, QC, in accordance with the associated Technical Specifications detailed in the Requirement attached as Annex A.
- b) to carry out any approved unscheduled work not covered in paragraph a) Above.

2. Standard Clauses and Conditions

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

2.1 General Conditions

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

Section 22 of 2030 is amended in Annex E Warranty.

2.2 Supplemental General Conditions

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

3. Security Requirement

There is no security requirement associated with this Statement of Work

4. Term of Contract

4.1 Contract period

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

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4.2 Work period

Work is to commence and be completed as follows:

Fall 2017 Work:

Start: October 12, 2017
End: November 9, 2017

Spring 2018 Work:

Start: April 3, 2018, or as per ship availability
End: May 25, 2018, or as per ship availability

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

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

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

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

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.

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6.3 SACC Manual Clauses

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

Limitation of Price
Lien - Section 427 of the Bank Act

7. Invoicing Instructions

7.1 Submitting of invoices

The Contractor must submit invoices in accordance with the information required in Section 13 of 2030, (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:
mathieu.gagnon@tpsgc-pwgsc.gc.ca

7.3 Warranty Holdback

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

8. Certifications

8.1 Generality

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

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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 9001:2000 - 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.

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5. If, at any time, the total cumulative liability of the Contractor for losses or damage suffered by Canada caused by the Contractor's performance of or failure to perform the Contract, excluding liability described under subsection 2(a), (b), (c) and (d) exceeds \$40 million, either Party may terminate the Contract by giving notice in writing to the other Party and neither Party will make any claim against the other for damages, costs, expected profits or any other such loss arising out of the termination. However, no such termination or expiry of the Contract shall reduce or terminate any of the liabilities that have accrued to the effective date of the termination but which liabilities are subject to the limitations as specified in sub-article (1) through (4) above.
 6. The date of termination pursuant to this Article, shall be the date specified by Canada in its notice to terminate, or, if the Contractor exercises the right to terminate, in a notice to the Contractor from Canada in response to the Contractor's notice to terminate. The date of termination shall be in Canada's discretion to a maximum of 12 months after service of the original notice to terminate served by either Party pursuant to sub-article 5, above.
 7. In the event of a termination under this Article, the Contract will automatically remain in force subject to all of the same terms and conditions until the date of termination and the Contractor agrees that it will be paid in accordance with the applicable provisions as set out in the Basis of Payment, Annex B and that the Contractor's liability remains as specified in sub-articles (1) through (4), above.
 8. Nothing shall limit Canada's other remedies, including Canada's right to terminate the Contract for default for breach by the Contractor of any of its obligations under this Contract, notwithstanding that the Contractor may have reached any limitation of its liability hereunder.

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ANNEX A

REQUIREMENT - SPECIFICATION

See electronic Annex.

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.

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

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

ANNEX C

INSURANCE REQUIREMENTS

C.1 Ship Repairers' Liability Insurance

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

C.2 Commercial General Liability Insurance

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

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- (c) Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
 - (d) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
 - (e) Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
 - (f) Employees and, if applicable, Volunteers must be included as Additional Insured.
 - (g) Employers' Liability: to protect the Contractor for liabilities arising in the management and administration of statutory and contractual entitlements of its employees.
 - (h) Notice of Cancellation: The Insurer agrees to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
 - (i) If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
 - (j) Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
 - (k) Sudden and accidental Pollution Liability (minimum 72 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.

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;

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- (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.

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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.

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Appendix 1 of Annexe 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		<u>Effect on Vessel Operations</u> <u>Effet sur des opérations de navire</u> 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

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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

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ANNEX F

VESSEL CUSTODY

(NOT USED)

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Annex G

SECURITY REQUIREMENTS CHECK LIST

(NOT USED)

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ANNEX H

PROJECT MANAGEMENT SERVICES

(NOT USED)

ANNEX I

FINANCIAL BID PRESENTATION SHEET

I1 Price for Evaluation

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 <i>Labour Cost</i> : Estimated labour hours at a firm <i>hourly Charge-out Labour Rate</i> , including overhead and profit for evaluation purpose only: 200 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.

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I3 Overtime

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

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

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

Premium for Double time: \$ _____ per hour

The above premiums rates shall be calculated as follows:

Premium for time and one half:

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

Premium for double time:

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

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

I4 Daily Services Fee

Not used

I5 Cost of all Services is Included in Contract Price

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

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

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

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

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

I6 Vessel Transfer Costs

Not used

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APPENDIX 1 OF ANNEX I

Scheduled Work:

PRICE PER ITEM SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
Parts 1 to 5	SCOPE, HEALTH AND SAFETY REQUIREMENTS & GENERAL REMARKS & FIELD SERVICE REPRESENTATIVE	\$ _____
6	BIGE CLEANING	\$ _____
7	POTABLE WATER TANKS	\$ _____
8	BOW WINDLASS 5-YEAR	\$ _____
9	STARBOARD CRANES 5-YEAR	\$ _____
10	CHEF DE MISSION SHOWER	\$ _____
11	OFFICERS' DECK	\$ _____
12	INCINERATOR	\$ _____
13	CO ₂ PIPE	\$ _____
14	CEILING TILES	See optional work
15	PNEUMATIC TESTING	\$ _____
A) SCHEDULED WORK - TOTAL FIRM PRICE		\$ _____

Optional Work:

PRICE PER ITEM SHEETS		
Item	Description – B) OPTIONAL WORK	Firm Price
14	CEILING TILES	\$ _____
B) OPTIONAL WORK - TOTAL FIRM PRICE		\$ _____

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

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described at Annex A of the Contract under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment. The Contracting Authority may exercise the option within **10 days** after beginning of work by sending a written notice to the Contractor.

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Summary:

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

Remark to Bidders:

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

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ANNEX J

Scheduled Work:

PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
Parts 1 to 5	SCOPE, HEALTH AND SAFETY REQUIREMENTS & GENERAL REMARKS & FIELD SERVICE REPRESENTATIVE (Bidders can enter \$0.00 or indicate 'included' if the fees for this item are distributed in each of the items below. In case the fees are not distributed an amount must be indicated in the price box.)	\$ _____
6	BILGE CLEANING 6.1 – Scope, 6.2 – Reference Documents, 6.4 – Proof of performance & 6.5 – Deliverables documents (Overheads fees related to this item must be distributed in each sub items.) 6.3 – Scheduled work (except item 6.3.18 below) <div style="text-align: right;">Mobilization / demobilization = \$ _____</div> <div style="text-align: right;">Materials, equipment and consumables = \$ _____</div> <div style="text-align: right;">Labour ; \$ _____ /hour X _____ hours = \$ _____</div> Subcontracting (if applicable) <div style="text-align: right;">Materials, equipment and consumables = \$ _____</div> <div style="text-align: right;">Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div style="text-align: right;">Total for bilge cleaning : \$ _____</div> 6.3.17 – Pick-up, pumping and elimination of ballast water, sludge and solid scrap (Final amount to be prorated) <div style="text-align: right;">Pumping and elimination of liquid Unit Price ; \$ _____ /liter X 5000 liters = \$ _____</div> <div style="text-align: right;">Pumping and elimination of sludge and solid scrap Unit Price ; \$ _____ /liter X 1000 liters = \$ _____</div> <div style="text-align: right;">Total for item 6.3.17: \$ _____</div> <div style="text-align: right;">Total for item 6 : \$ _____</div>	
7	POTABLE WATER TANKS 7.1 – Scope, 7.2 – Reference Documents, 7.4 – Proof of performance, 7.5 – Deliverable Documents (Overheads fees related to this item must be distributed in each sub items.) 7.3 – Surface preparation and coating work <div style="text-align: right;">Mobilization / demobilization = \$ _____</div> <div style="text-align: right;">Materials, equipment and consumables = \$ _____</div> <div style="text-align: right;">Labour ; \$ _____ /hour X _____ hours = \$ _____</div> Subcontracting (if applicable) <div style="text-align: right;">Materials, equipment and consumables = \$ _____</div> <div style="text-align: right;">Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div style="text-align: right;">Total for item 7 : \$ _____</div> <div style="text-align: right;">Total for item 7 : \$ _____</div>	

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
8	BOW WINDLASS 5-YEAR	
	8.1 – Scope, 8.2 – Reference Documents, 8.4 – Proof of performance, 8.5 – Deliverable Documents (Overheads fees related to this item must be distributed in each sub items.)	
	8.3 – Inspection and certification (5-year) work of the bow windlass (except items 8.3.26, 8.3.62 & 8.3.64 below)	
	<div>Mobilization / demobilization = \$ _____</div> <div>Materials, equipment and consumables = \$ _____</div> <div>Labour ; \$ _____ /hour X _____ hours = \$ _____</div>	
	Subcontracting (if applicable) <div>Materials, equipment and consumables = \$ _____</div> <div>Labour ; \$ _____ /hour X _____ hours = \$ _____</div>	
	Total for item 8: \$ _____	
	8.3.26 – Magnetic particle testing (Final amount to be prorated)	
	<div>NDT magnetic particle examination</div> <div>Unit Price ; \$ _____ /test X 10 tests = \$ _____</div>	
	Total for item 8.3.26: \$ _____	
	8.3.62 & 8.3.64 – Bow Windlass Coating (Final amount to be prorated)	
	<div>Coating of Bow Windlass</div> <div>Unit Price ; \$ _____ /m² X 2 m² = \$ _____</div>	
	Total for items 8.3.64 & 8.3.66: \$ _____	
	Total for item 8 : \$ _____	
9	STARBOARD CRANES 5-YEAR	
	9.1 – Scope, 9.2 – Reference Documents, 9.4 – Proof of performance, 9.5 – Deliverable Documents (Overheads fees related to this item must be distributed in each sub items.)	
	9.3 – Inspection and certification (5-year) work of both starboard cranes (except items 9.3.30, 9.3.76 & 9.3.78 below)	
	<div>Mobilization / demobilization = \$ _____</div> <div>Materials, equipment and consumables = \$ _____</div> <div>Labour ; \$ _____ /hour X _____ hours = \$ _____</div>	
	Subcontracting (if applicable) <div>Materials, equipment and consumables = \$ _____</div> <div>Labour ; \$ _____ /hour X _____ hours = \$ _____</div>	
	Total for this item : \$ _____	

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
	9.3.29 – Magnetic particle testing (Final amount to be prorated) NDT magnetic particle examination Unit Price ; \$ _____ /test X 10 tests = \$ _____ Total for item 9.3.29: \$ _____	
	9.3.75 & 9.3.77– Crane painting (Final amount to be prorated) Painting of cranes Unit Price ; \$ _____ /m ² X 4 m ² = \$ _____ Total for items 9.3.75 & 9.3.77: \$ _____	
	Total for item 9 :	\$ _____
10	CHEF DE MISSION SHOWER 10.1 – Scope, 10.2 – Reference Documents, 10.4 – Proof of performance, 10.5 – Deliverable Documents (Overheads fees related to this item must be distributed in each sub items.) 10.3 – Inspection, dismantling and reinstallation work (except items 10.3.6 & 10.3.8 below) Mobilization / demobilization = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Subcontracting (if applicable) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Total for this item : \$ _____	
	10.3.6 & 10.3.8 – Deck repair and related work (Final amount to be prorated) Replacement of ¼" Grade A steel Unit Price ; \$ _____ /ft ² X 20 ft ² = \$ _____ Replacement of the insulation under the deck Unit Price ; \$ _____ /ft ² X 20 ft ² = \$ _____ Replacement of panels under the deck Unit Price ; \$ _____ /ft ² X 20 ft ² = \$ _____ Replacement of plumbing in the bathroom = \$ _____ Replacement of ceramic floor Unit Price ; \$ _____ /ft ² X 20 ft ² = \$ _____ Total for item 10.3.6: \$ _____	
	Total for item 10 :	\$ _____

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
11	OFFICERS' DECK	
	11.1 – Scope, 11.2 – Reference Documents, 11.4 – Proof of performance, 11.5 – Deliverable Documents (Overheads fees related to this item must be distributed in each sub items.)	
	11.3 – Officer's Deck modification work (except item 11.3.8 below) <div> Mobilization / demobilization = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Subcontracting (if applicable) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Total for this item : \$ _____ </div>	
	11.3.8 – Officer's Deck Coating <div> Mobilization / demobilization = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Subcontracting (if applicable) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Total for item 11.3.8 : \$ _____ </div>	
	Total for item 11 : \$ _____	
12	INCINERATOR	
	12.1 – Scope, 12.2 – Reference Documents, 12.4 – Proof of performance, 12.5 – Deliverable Documents (Overheads fees related to this item must be distributed in each sub items.)	
	12.3 – Incinerator dismantling, inspection, refractory replacement and reassembling work <div> Mobilization / demobilization = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Subcontracting (if applicable) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Total for this item : \$ _____ </div>	
	Total for item 12 : \$ _____	

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
13	CO₂ PIPE 13.1 – Scope, 13.2 – Reference Documents, 13.4 – Proof of performance, 13.5 – Deliverable Documents (Overheads fees related to this item must be distributed in each sub items.) 13.3 – CO₂ Pipe Modification work <div style="text-align: right;"> Mobilization / demobilization = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Subcontracting (if applicable) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Total for this item : \$ _____ </div>	
Total for item 13 : \$ _____		
14	CEILLING TILES	See optional Work
15	PNEUMATIC TESTING 15.1 – Scope, 15.2 – Reference Documents, 15.4 – Proof of performance, 15.5 – Deliverable Documents (Overheads fees related to this item must be distributed in each sub items.) 15.3 – Pneumatic Tests Work for potable water tanks <div style="text-align: right;"> Cost for Mobilization / demobilization per tanks (cost related to pneumatic testing preparation) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Cost for pressure per tank Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ Total per tanks _____ \$ X 2 tanks : \$ _____ </div>	
Total for item 15 : _____		
TOTAL A) FIRM PRICE FOR SCHEDULED WORK = \$ _____		

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Optional Work:

PRICING DATA SHEETS		
Item	Description – B) OPTIONAL WORK	Firm Price
14	CEILING TILES	
	14.1 – Scope, 14.2 – Reference Documents, 14.4 – Proof of performance, 14.5 – Deliverable Documents (Overheads fees related to this item must be distributed in each sub items.)	
	14.3 – Ceiling Tiles Replacement Work (except item 14.3.4 below)	
	Main Deck Ceiling Tiles: Mobilization / demobilization = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____	
	Subcontracting (if applicable) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____	
	Other Decks' Ceiling Tiles: Mobilization / demobilization = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____	
	Subcontracting (if applicable) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____	
	Total for this item : \$ _____	
	14.3.4 – Lighting Fixture Replacement Work	
	Main Deck Lighting Fixtures Mobilization / demobilization = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____	
Subcontracting (if applicable) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____		
Main Deck Lighting Fixtures Mobilization / demobilization = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____		
Subcontracting (if applicable) Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____		
Total for this item : \$ _____		
	Total for item 14:	\$ _____
TOTAL B) FIRM PRICE FOR OPTIONAL WORK =		\$ _____

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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 10 days after Contract award for the work scheduled in the fall 2017 and within **30 days** prior the beginning of work scheduled in the spring 2018 by sending a written notice to the Contractor.

ANNEX « K »

Technical bid presentation sheet

Id.	Description	Technical references within the bid documents (page #, paragraph, etc.)
Financial Bid		
<u>4.1.3</u> 1)	Provide information in accordance with Annexe I – Financial Bid Presentation Sheets	To provide at bid closing
<u>4.1.3</u> 2)	Provide information in accordance with Appendix 1 of Annexe I – Price per Item Sheet	To provide at bid closing
<u>4.1.4</u> 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		
<u>4.1.3</u> 3)	Provide Letter or proof of Insurance in accordance with article 6.13 of Part 6	To provide at bid closing
<u>4.1.5</u> 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		
<u>4.1.4</u> 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		
<u>4.1.4</u> 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
<u>4.1.5</u> 2)	Provide Work Schedule and Reports in accordance with article 7.16, Part 7;	To provide within 5 calendar days after Contract award
<u>4.1.5</u> 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.	

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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.	

NGCC -CCGS

AMUNDSEN

Radoub / Refit

Garde côtière canadienne-Canadian Coast Guard
101 boulevard Champlain, Québec, QC G1K 7Y7
17/08/2017

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1 REMARQUES GÉNÉRALES/GENERAL NOTES		
1.1 Description/Identification		
1.1.1 Les présentes remarques générales décrivent les exigences de la GCC applicables à l'ensemble des spécifications techniques connexes.		1.1.2 These General Notes describe the CCG requirements applicable to all accompanying Technical Specifications.
1.1.3 Tous les travaux qui auront lieu pendant la première semaine de la période de radoub ne doivent pas ne doivent pas nuire aux travaux de démobilisation du navire.		1.1.4 All work carried out during the first week of the refit period must not interfere with the vessel's demobilization work.
1.2 Références/References		
1.2.1 Documentation et réglementation applicables /Applicable regulations and documentation		
Procédures du MSSF/FSSM Procedures	Titre/Title	Emplacement/ Location
7.A.1	Programme de prévention des risques /Assessing Risk	MSSF/FSSM
7.B.2.	Protection contre les chutes/Fall Protection	MSSF/FSSM
7.B.3	Accès aux espaces clos/Entry Into Confined Spaces	MSSF/FSSM
7.B.4	Travail à chaud/Hotwork	MSSF/FSSM
7.B.5	Verrouillage et étiquetage/Lockout and Tagout	MSSF/FSSM
7.B.6	Travaux électriques sur les circuits sous tension/Electrical Safety – Working on Energized Electrical Conductors or Circuit Parts	MSSF/FSSM
7.E.7	Gérance de l'environnement/Environmental Stewardship	MSSF/FSSM
10.A.7	Sécurité et sureté de l'entrepreneur/Contractor Safety and Security	MSSF/FSSM
10.B.1	Entretien des appareils de levage et des engins de manutention/ Maintenance of Lifting Appliances and Cargo Handling Gear	MSSF/FSSM
	Plan de la gestion du risque de l'amiante/Asbestos Risk Assessment Management Plan	À bord/Onboard
	Rapport d'épreuves des peintures à plomb/Lead Paint Test Report	À bord/Onboard
Publications		
TP127	Normes d'électricité de la Sécurité maritime de Transports Canada/Transport Canada Marine Safety Electrical Standard	En ligne/On Line
Standards		
CT-043-EQ-EG-001-E	Spécification de soudage/Welding Specification http://intra.coast-guard.ca/folios/00922/docs/WeldingSpecification-eng.pdf	GCC/CCG

Lois/Acts		
LMMC/CSA	Loi sur la marine marchande du Canada/Canada Shipping Act	En ligne/On Line
CCT/CLC	Code canadien du travail/Canada Labour Code http://laws-lois.justice.gc.ca/fra/lois/L-2/	En ligne/On Line
Règlements/ Regulations		
SSTMM/MOHS	Règlement sur la santé et la sécurité au travail en milieu maritime/Maritime Occupational Health and Safety	En ligne/On Line
Reg. 246 SSTMM/Reg 246 MOHS	Substitution de substances/Substitution of Substances	Ci-joint/Attached

1.3 Santé et sécurité au travail/Occupational Health and Safety	
1.3.1 L'entrepreneur doit veiller au respect, par lui-même et par l'ensemble des sous-traitants, des procédures de santé et de sécurité au travail (SST) conformément aux règlements fédéraux et provinciaux pertinents. Il doit veiller à ce que ses activités soient menées en toute sécurité et de manière à ne pas compromettre la sécurité de tout membre du personnel.	1.3.2 The Contractor must be responsible for ensuring that the Contractor and all sub-contractors follow Occupational Health and Safety (OHS) procedures in compliance with applicable Federal and Provincial OHS regulations. The Contractor must be responsible for ensuring that Contractor activities are carried out in a safe manner and do not endanger the safety of any personnel.
1.3.3 L'entrepreneur doit faire en sorte que tous les espaces clos offrent un accès sécuritaire et que le travail à chaud prévu dans le présent devis peut s'y faire en toute sécurité. Cela comprend l'ouverture, la ventilation, les essais, le dégazage et le maintien des conditions et des permis en vue d'offrir un accès et un travail à chaud sécuritaires pour la durée du contrat.	1.3.4 The Contractor must be responsible for ensuring all confined spaces are made and maintained safe for entry and safe for hot work for the work of this Specification. This includes opening, ventilation, testing, gas-freeing and maintaining conditions and permits safe for entry and safe for hot work for the duration of this contract.
1.3.5 L'entrepreneur et ses employés n'auront pas accès aux postes d'équipage ni aux installations sanitaires du navire. L'entrepreneur doit fournir les commodités nécessaires à ses employés et à ceux des sous-traitants au besoin.	1.3.6 The Contractor and Contractor's employees must not have access to the vessel's washrooms and crew mess facilities. The Contractor must provide the necessary amenities for the Contractor's and sub-contractors employees as required.
1.4 Sécurité du navire / Vessel Security	
1.4.1 L'entrepreneur connaîtra pleinement et respectera pleinement la section 10.A.7 du MSSF de la GCC « Sécurité et sûreté de l'entrepreneur ».	1.4.2 The Contractor must be fully versed and must fully comply with section 10.A.7 of the CCG FSSM "Contractor Safety and Security".
1.5 Accès au lieu de travail/Access to Worksite	
1.5.1 L'entrepreneur doit veiller à ce que l'AT, le CM et la GCC aient en tout temps libre accès au lieu de travail pendant toute durée du contrat.	1.5.2 The Contractor must ensure that the TA, the CE and CCG have unrestricted access to the worksite at all times during the contract period.
1.6 Système d'information sur les matières dangereuses utilisées au travail (SIMDUT)/Workplace Hazardous Materials Information System (WHIMS)	
1.6.1 L'entrepreneur doit fournir à l'AT et le CM les fiches signalétiques de sécurité du produit pour tous les produits qu'il fournit et qui sont contrôlés en vertu du SIMDUT.	1.6.2 The Contractor must provide the TA with Material Safety Data Sheets (MSDS) for all Contractor supplied WHIMS controlled products.
1.6.3 L'AT permettra à l'entrepreneur d'accéder aux FSSP's pour tous les produits contrôlés à bord du navire dans le cadre de tous les éléments de travail précisés.	1.6.4 The TA must provide the Contractor with access to MSD sheets for all controlled products on the ship for all specified work items.

1.7 Usage du tabac sur le lieu de travail/Smoking in the Work Space	
1.7.1 L'entrepreneur doit veiller au respect de la Loi sur la santé des non-fumeurs et du Règlement sur la santé des non-fumeurs. Aucune aire du navire ne doit être désignée comme réservée aux fumeurs. L'entrepreneur doit s'assurer qu'absolument personne ne fume à bord du navire.	1.7.2 The Contractor must be responsible for ensuring compliance with the Non-Smokers Health Act and the Non-Smokers' Health Regulations. No part of the vessel must be a designated smoking area. The Contractor must ensure that there is absolutely no smoking onboard the vessel.
1.8 Lieu de travail sain et sans danger/Clean and Hazard Free Worksite	
1.8.1 Avant que l'entrepreneur commence tout travail sur le navire, l'autorité technique et le représentant de l'assurance de la qualité de l'entrepreneur doivent visiter toute aire où des travaux auront lieu, y compris les chemins d'accès et de retrait à proximité des chemins où les travaux prévus au présent devis devront être effectués. Le représentant de l'assurance de la qualité de l'entrepreneur doit prendre des photos numériques de chacune des aires afin de montrer que celles-ci sont conformes aux exigences du présent document. Il doit ensuite télécharger ces photos en format JPG sur un CD ou un DVD. Chaque photo devra être datée et indiquer de quel emplacement sur le navire il s'agit. Des copies de ce CD ou de ce DVD devront être fournies à l'autorité technique aux fins de référence dans les 48 heures suivant le début de la période du contrat.	1.8.2 Before the Contractor starts any work on the vessel the Contractor's Quality Assurance Representative and the TA must walk through each space and area where work is to take place, including access and removal routes and areas adjacent to those where the work is to be done as a result of this specification. The Contractor's Quality Assurance Representative must take digital pictures of each area showing the outfit therein and download the photos in JPG format onto a CD or DVD. Each picture must be dated and labeled as to the location on the vessel. Copies of this CD or DVD are to be provided to the TA for reference purposes within 48 hours of the start of the contract.
1.8.3 L'entrepreneur doit assurer la propreté des lieux de travail ainsi que leurs voies d'accès pendant la durée de la période des travaux.	1.8.4 The Contractor must maintain cleanliness of all work areas and their access routes for the duration of the contract period.
1.8.5 Les aires qui présentent un danger, en raison du présent devis, doivent être sécurisées et clairement recensées par l'entrepreneur. Des affiches doivent être installées afin d'informer et de protéger tous les membres du personnel par rapport à ce danger, conformément aux exigences applicables du <i>Code canadien du travail</i> .	1.8.6 Areas that pose a hazard as a result of the specification work are to be secured and clearly identified by the Contractor with signage to advise and protect all personnel from the hazard in accordance with applicable Canada Labour Code requirements.
1.8.7 À la fin du présent contrat, l'entrepreneur devra veiller à ce que soient éliminés tous les déchets produits dans le cadre des travaux du présent devis et à ce que le navire soit aussi propre qu'il l'était avant le début de la période du contrat.	1.8.8 Upon completion of this contract, the Contractor must be responsible for the removal of all garbage generated from the work of this specification and for returning the vessel to the state of cleanliness in which the vessel was at the start of the contract period.
1.8.9 À la suite des travaux de ce devis et avant la clôture du contrat, l'entrepreneur	1.8.10 Upon completion of all work as described in this specification and prior to the

<p>permettra à l'AT et le CM l'opportunité d'inspecter les lieux de travail pour toutes déficiences résultant des travaux de ce devis. Toutes déficiences résultant des travaux de ce devis seront corrigé par l'entrepreneur à ses frais.</p>	<p>close of contract, the Contractor must afford the TA and the CM the opportunity to inspect all work areas for deficiencies resulting from contract work. All identified deficiencies resulting from contract work must be immediately corrected by the Contractor at the Contractor's expense.</p>
<p>1.9 Protection contre les incendies/Fire Protection</p>	
<p>1.9.1 L'entrepreneur doit s'assurer que l'isolation, le retrait et l'installation de systèmes de détection et d'extinction des incendies et de composantes connexes sont effectués par un technicien qualifié. Lorsque des systèmes de détection ou d'extinction des incendies sont désactivés ou mis hors service par l'entrepreneur pendant toute la durée du contrat, un technicien qualifié doit certifier de nouveau qu'ils sont pleinement fonctionnels. Le certificat original signé et daté doit être remis à l'AT et à l'inspection technique avant la fin du contrat.</p>	<p>1.9.2 The Contractor must ensure the isolation, removal and installation of fire detection and suppression systems or any components thereof, is performed by a qualified technician. When the fire detection or fire suppression system is deactivated or disabled by the Contractor during the contract, the system(s) must be recertified by a qualified technician as fully functional. A signed and dated original copy of the certificate must be delivered to the TA before the end of the contract.</p>
<p>1.9.3 L'entrepreneur doit informer l'AT et obtenir l'approbation écrite de cette dernière avant de perturber, de retirer, d'isoler, de désactiver, de mettre hors service ou de verrouiller tout élément des systèmes de détection et d'extinction des incendies, y compris les détecteurs de chaleur et de fumée.</p>	<p>1.9.4 The Contractor must notify the TA and obtain written approval from the TA prior to disturbing, removing, isolating, deactivating / disabling or locking out any part of the fire detection or suppression systems, including heat and smoke sensors.</p>
<p>1.9.5 L'entrepreneur doit assurer la protection contre les incendies en tout temps, y compris lorsque des travaux sont effectués sur les systèmes de détection et d'extinction des incendies du navire. Cela peut être effectué de la façon qui suit et seulement après avoir obtenu l'approbation écrite de l'AT:</p> <ul style="list-style-type: none"> • ne mettre hors service qu'une partie du système à la fois • maintenir le système en fonction au moyen de pièces de rechange tandis que les travaux sont en cours • employer d'autres méthodes acceptées et approuvées par l'AT <p>L'entrepreneur doit respecter les exigences du CCT et du MSSF tel que s'appliquant à un bâtiment non-protégé.</p>	<p>1.9.6 The Contractor must ensure protection against fire at all times including when working on the ship's fire detection and / or suppression system(s). This may be accomplished by the following and only with the TA's written permission:</p> <ul style="list-style-type: none"> • disabling only one portion of a system at a time • maintaining system function using spares while work is in progress • other means acceptable to and approved by the TA <p>The Contractor must adhere to CLC and FSSM requirements for hot work on an unprotected vessel.</p>
<p>1.9.7 L'entrepreneur doit noter que si toutes les précautions nécessaires ne sont pas prises lors de travaux sur les systèmes d'extinction des</p>	<p>1.9.8 The Contractor must note that failure to take the necessary precautions while performing work on the vessel's fire suppression system(s)</p>

incendies du navire, il pourrait en résulter un rejet accidentel d'agents extincteurs. L'entrepreneur devra alors faire remplir et certifier, à ses frais, les contenants ou les systèmes qui se sont vidés en raison de tels travaux.	could result in the accidental discharge of the fire suppression agent(s). The Contractor must recharge and certify at his cost, container(s) or systems that are discharged as a result of such work.
1.10 Peinture endommagée et retouches/ Disturbed Paint and Touch-ups	
1.10.1 Sauf indication contraire, l'entrepreneur doit fournir et appliquer deux couches de revêtement marin compatible avec le système de peinture du navire sur toutes les nouvelles surfaces métalliques et les surfaces nécessitant des retouches.	1.10.2 Unless stated otherwise the Contractor must supply and apply two coats of marine coating compatible with the vessel's existing coating system to all new and/or disturbed metal surfaces.
1.10.3 Avant que la première couche soit appliquée, l'entrepreneur doit préparer toutes les nouvelles charpentes d'acier et celles nécessitant des retouches conformément aux indications du fabricant du revêtement.	1.10.4 The Contractor must prepare all new and disturbed steelwork to the paint manufacturer's standards prior to painting.
1.11 Inspections réglementaires et enquêtes de classification/Regulatory Inspections and Class Surveys	
1.11.1 L'entrepreneur doit prévoir au calendrier et coordonner l'ensemble des inspections réglementaires et des enquêtes de classification en collaboration avec l'autorité pertinente, p. ex. Sécurité maritime de Transports Canada, Santé Canada, Environnement Canada ou autres, en fonction du présent devis.	1.11.2 The Contractor must contact, coordinate and schedule all regulatory inspections and class surveys with the applicable authority: i.e. TCMS, HC, Environment Canada or others as required by this Specification.
1.11.3 L'entrepreneur doit convoquer une réunion avec son gestionnaire de projet pour le présent devis avec l'AT et le CM au moins une semaine avant la date prévue du début des travaux. L'objectif de cette réunion est de d'identifier les exigences d'inspection et d'essai réglementaires à l'égard des travaux découlant du présent devis.	1.11.4 The Contractor must convene a meeting of the Contractor's Project Manager for the work of this Specification with the TA and CE, no less than 1 week before the scheduled start of work. The purpose of this meeting is to confer with all parties and determine the regulatory inspection and testing requirements for the work of this Specification.
1.11.5 Une attestation signée par l'inspecteur étant présent pour les inspections effectuées au cours de ce contrat doit être remise à l'AT par courriel en format PDF avant la fin du contrat.	1.11.6 Signed attestation by the attending surveyor for all regulatory inspections carried out during the course of this contract must be provided to the TA by email in PDF format prior to the close of contract.
1.11.7 Le respect de tout point d'inspection par l'AT ou son représentant ne signifie pas pour autant que cette dernière donne son approbation.	1.11.8 Observance by the TA or his representative of any inspection point does not constitute an approval by the TA.
1.11.9 L'entrepreneur ne doit pas remplacer l'AT en ce qui concerne l'observation, le respect	1.11.10 The Contractor must not substitute witnessing, observance and

et l'inspection propres aux enquêtes de classification et aux inspections réglementaires.	inspection by the TA for the required regulatory inspections or class surveys.
<p>1.11.11 Dans le présent devis, l'expression «l'entrepreneur doit fournir une preuve d'inspection de la Sécurité maritime de Transports Canada» ou tout autre énoncé semblable signifie ce qui suit :</p> <p>Après avoir réussi un examen, une inspection ou un essai relatif aux exigences des lois et des règlements applicables ou de toute autre exigence de la Sécurité maritime, l'entrepreneur doit veiller à ce que l'inspecteur de la Sécurité maritime examine le registre des inspections du navire et doit obtenir la signature de l'inspecteur pour chaque point d'inspection. Le registre du navire doit demeurer sous la garde et le contrôle du mécanicien en chef du navire en tout temps.</p>	<p>1.11.12 Throughout this specification the phrase “The Contractor must obtain TCMS survey credit” or similar phrasing must have the following meaning:</p> <p>On completion of a successful examination, inspection or test to the requirements of the applicable Legislation, Regulation and other requirements of TCMS, the Contractor must ensure that the attending TCMS inspector is presented with the vessel’s register of TCMS inspections and obtain the signature of the attending TCMS inspector for each inspection item. The vessel’s register must remain in the care and custody of the vessel CE at all times.</p>
<p>1.11.13 Dans le présent devis, l'expression «l'entrepreneur doit permettre à » ou tout autre énoncé semblable possède la signification suivante :</p> <p>L'entrepreneur doit envoyer un préavis à la Sécurité maritime et à l'autorité technique au moins 48 heures à l'avance pour les informer du début ou de la fin d'un élément de travail et du respect d'un point d'inspection, afin qu'ils puissent constater l'avancement des travaux ou procéder à une inspection.</p>	<p>1.11.14 Throughout this specification the phrase “The Contractor must afford the opportunity” or similar phrasing must have the following meaning:</p> <p>The Contractor must provide no less than 48 hours’ notice to TCMS, and the TA of the starting or completion of a work item, and of the reaching of an inspection point such that TCMS and the TA can witness the conduct of the work or perform an inspection.</p>
1.12 Résultats des essais et recueil de données/Test Results and Data Book	
<p>1.12.1 L'entrepreneur doit concevoir un plan d'inspection, de test et d'essais comprenant au minimum l'ensemble des produits livrables, des inspections, des tests, des essais, des inspections de la Sécurité maritime et des points d'enquête relatifs aux travaux propres à présent devis. Le plan d'inspection, de test et d'essais doit être soumis à l'autorité technique aux fins d'examen 1 semaine suite à l'octroi du contrat et que celui-ci doit être mis à jour à chaque fois qu'il y a un changement. Le plan d'inspection, de test et d'essais doit être fourni en format PDF et sur une feuille de calcul Excel non verrouillée.</p>	<p>1.12.2 The Contractor must develop an Inspection, Test and Trials Plan which must include as a minimum all deliverables, inspections, tests, trials, TCMS inspection and survey points for the work of this Specification. The Inspection, Test and Trials plan must be provided for TA review one week after contract award and updated at every change. The Inspection, Test and Trials Plan must be provided in PDF format and in unlocked MS-Excel spreadsheet(s).</p>
<p>1.12.3 Toute donnée propre aux essais, aux mesures, aux étalonnages et aux lectures doit être consignée, datée, accompagnée de la signature de la personne ayant pris les mesures, et transmise à l'AT par courriel en format</p>	<p>1.12.4 All tests, measurements, calibrations and readings must be recorded, signed by the person taking the measurements, dated and provided in digital format by email to the TA.</p>

électronique.	
1.12.5 Les unités et la précision des données enregistrées doivent être conformes aux dessins associés ainsi que les spécifications du manufacturier.	1.12.6 Units and precision of recorded dimensions must be in accordance with the associated drawings and manufacturer's specifications.
1.12.7 L'entrepreneur doit fournir à l'AT les certificats d'étalonnage valides pour l'ensemble des instruments utilisés lors des inspections, des tests et des essais afin de prouver que les instruments ont été étalonnés conformément aux instructions du fabricant.	1.12.8 The Contractor must provide to the TA current and valid calibration certificates for all instrumentation used in the Inspection, Test and Trials showing that the instruments have been calibrated in accordance with the manufacturer's instructions.
1.12.9 Toute la documentation requise sera produite en français et en anglais et sera soumise en format numérisé non-verrouillé à l'AT avant la fermeture du contrat.	1.12.10 All requested documentation must be generated in English and in French and submitted in unprotected electronic format by email to the TA prior to the close of contract.
1.12.11 Avant la clôture du contrat, toute documentation requise sera soumis par courriel en format numérisé non-verrouillé à l'AT. Tous les rapports, dessins et certificats doivent être signés et le cas échéant, doivent porter l'en-tête officiel de l'entrepreneur.	1.12.12 All requested documentation must be submitted in unprotected electronic format by email to the TA prior to the close of contract. All reports, drawings and certificates must be signed and submitted where applicable with company letterhead.
1.12.13 L'entrepreneur doit mettre à jour tous les dessins touchés par les travaux exigés dans le cadre du présent devis. L'entrepreneur doit créer et remettre tous les dessins relatifs aux travaux exigés dans le cadre du présent devis. L'entrepreneur doit fournir les dessins de travail en format PDF pendant toute la durée du contrat. L'entrepreneur doit fournir de nouveaux dessins à jour en format électronique DWG (AutoCAD 2010) montrant les aménagements finaux de la version définitive des résultats des essais et du recueil de données.	1.12.14 The Contractor must update all drawings affected by the work of this specification. The Contractor must create and supply all drawings required by the work of this specification. The Contractor must provide working drawings in PDF format during the work of the contract period. The Contractor must supply new and updated electronic drawings in AutoCAD 2010 DWG format showing the as fitted arrangements in the final version of the Test Results and Data Book.
1.12.15 L'entrepreneur doit présenter dans un rapport les conclusions, les travaux achevés et l'état final des travaux propres au présent devis. Tous les documents produits pendant la durée du contrat doivent être envoyés par courriel à l'AT avant la clôture du contrat.	1.12.16 The Contractor must report the findings, work completed, and final condition for the work of this specification. All documentation from the contract period must be emailed to the TA prior to the close of contract.
1.13 Matériel et outils fournis par l'entrepreneur/Contractor Supplied Materials and Tools	
1.13.1 L'entrepreneur doit s'assurer que tout le matériel est neuf et qu'il n'a jamais servi.	1.13.2 The Contractor must ensure all materials are new and unused.
1.13.3 L'entrepreneur doit s'assurer que tous les produits de remplacement comme les composants pour joints, les garnitures	1.13.4 The Contractor must ensure replacement material such as jointing, packing, insulation, small hardware, oils, lubricants, cleaning

d'étanchéité, les isolants, les petites ferrures, les huiles, les lubrifiants, les solvants de dégraissage, les agents de préservation, les peintures, les revêtements, etc., sont conformes aux dessins, aux manuels et aux instructions du fabricant de l'équipement.	solvents, preservatives, paints, coatings etc. are in accordance with the equipment manufacturer's drawings, manuals and/or instructions.
1.13.5 Lorsqu'aucun article particulier n'est précisé ou lorsqu'un remplacement doit être effectué, l'AT doit approuver par écrit l'élément de remplacement. L'entrepreneur doit donner des détails à l'AT sur le matériel utilisé ainsi que sur le certificat de catégorie et de qualité de divers matériaux avant d'en faire usage.	1.13.6 Where no particular item is specified or where substitution must be made, the TA must approve the substituted item in writing. The Contractor must provide information about materials used, certificate of grade and quality of various materials to the TA prior to use.
1.13.7 L'entrepreneur doit fournir l'ensemble de l'équipement, des appareils, des outils et de la machinerie, comme les grues, les échafaudages et les montages nécessaires à l'achèvement des travaux propres au présent devis.	1.13.8 The Contractor must provide all equipment, devices, tools and machinery such as crane services, staging, scaffolding and rigging necessary for the completion of the work in this specification.
1.13.9 L'entrepreneur doit assurer la prestation de services d'élimination des déchets d'huile, d'hydrocarbures et de tout autre déchet dangereux ou contrôlé produit dans le cadre des travaux propres au présent devis. L'entrepreneur doit fournir des certificats d'élimination pour l'ensemble des déchets énumérés ci-dessus. Ces certificats d'élimination devront montrer que l'élimination a été effectuée conformément aux règlements fédéraux, provinciaux et municipaux en vigueur.	1.13.10 The Contractor must provide waste disposal services for any oil, oily waste or other hazardous or controlled waste generated by the work of this specification. The Contractor must provide waste disposal certificates for all of the above generated waste and the disposal certificates must indicate that the disposal was in accordance with Federal, Provincial and Municipal regulations in effect.
1.14 Matériel et outils fournis par le gouvernement/Government Supplied Materials & Tools	
1.14.1 Tous les outils doivent être fournis par l'entrepreneur à moins d'indication contraire dans les spécifications techniques.	1.14.2 All tools are Contractor supplied unless otherwise stated in the technical specifications.
1.14.3 Si des outils sont fournis par le CM, alors l'entrepreneur doit les lui retourner dans l'état où ils étaient avant l'emprunt. Les outils empruntés doivent être inventoriés. L'entrepreneur doit apposer sa signature sur le relevé d'inventaire à la réception des outils et au moment où ils sont rendus au CM.	1.14.4 Where tools are supplied by the CE they must be returned by the Contractor in the same condition as when they were borrowed. Borrowed tools must be inventoried and signed for by the Contractor on receipt and return to the CE.
1.14.5 L'entrepreneur doit conserver tous les biens fournis par le gouvernement dans un entrepôt ou un magasin sûr à atmosphère contrôlée, conformément aux instructions du fabricant.	1.14.6 Any Government supplied material (GSM) must be received by the Contractor and stored in a secure warehouse or storeroom having a controlled environment appropriate for the equipment as per manufacturer's instructions.

1.15 Zones d'accès restreint/Restricted Areas	
1.15.1 L'entrepreneur ne doit pas entrer dans les zones suivantes, sauf pour y exécuter des travaux conformément aux spécifications : cabines, bureaux, ateliers, bureau d'ingénieur, timonerie, salle de commande, toilettes, cuisine, postes d'équipage, lieux de détente et autres zones dont l'accès restreint est signalé au moyen d'écriteaux.	1.15.2 The Contractor must not enter the following areas except to perform work as required by the specifications: all cabins, offices, workshops, Engineers' office, Wheelhouse, Control Room, all washrooms, Galley, Mess Rooms, Lounge areas and any other areas restricted by signage.
1.15.3 L'entrepreneur doit donner à l'AT et CM un préavis de 24 heures lorsqu'il doit travailler dans des locaux occupés ou dans des bureaux. La GCC dispose ainsi d'une période suffisante pour déplacer le personnel et sécuriser les zones.	1.15.4 The Contractor must give the TA 24 hours advance notice prior to working in any accommodation areas or office spaces. This must allow CCG adequate time to move personnel and secure the areas.
1.16 Inspections de l'entrepreneur et protection de l'équipement et du lieu de travail/Contractor Inspections and Protection of Equipment and the Worksite	
1.16.1 L'entrepreneur sera responsable de démonter et d'enlever toutes les obstacles qui pourront nuire aux travaux de ce devis et de les remonter à l'origine aux dépenses de l'entrepreneur avant la clôture de ce contrat.	1.16.2 The Contractor must be responsible for the disassembly and removal of all obstructions to work described in this specification and must reinstall same as per original at Contractor's expense prior to the close of contract.
1.16.3 En collaboration avec l'AT et le CM, l'entrepreneur doit coordonner une inspection de la condition et de l'emplacement des éléments devant être retirés avant d'exécuter le travail précisé ou d'accéder à un emplacement pour y travailler.	1.16.4 The Contractor must coordinate an inspection with the TA/CE on the condition and location of items to be removed prior to carrying out the specified work or to gain access to a location to carry out the work.
1.16.5 Tout dommage résultant des travaux de l'entrepreneur et attribuable à l'exécution des travaux par ce dernier devra être réparé par lui, à ses frais. Le matériel utilisé lors des remplacements ou des réparations doit répondre aux critères du BFE, indiqués ci-dessus.	1.16.6 Any damage incurred as a result of the Contractor's work and that is attributable to the Contractor's work performance must be repaired by the Contractor at his expense. Materials used in any replacement or repairs must meet the criteria for CSM noted above.
1.16.7 Avant la clôture du contrat et aux dépenses de l'entrepreneur, tout équipements et systèmes existants qui ont été affectés par les travaux de ce devis devront être mis à l'épreuve sous pleine charge jusqu'à ce que toutes les déficiences soient corrigées.	1.16.8 Prior to the close of contract, operational testing under full load must be conducted on all disturbed equipment and systems until such time as all identified deficiencies have been corrected at contractor's expense.
1.16.9 L'entrepreneur doit protéger l'équipement et les zones à proximité contre tout dommage. Les lieux de travail devront être protégés contre les infiltrations d'eau, les	1.16.10 The Contractor must protect all equipment and surrounding areas from damage. Work areas are to be protected from the ingress of water, welding spatter, blasting grit, excess

particules de sablage et de soudure, la peinture excessive etc. Des couvertures temporaires devront être installées sur les lieux de travail au besoin.	paint etc. Temporary covers to work areas must be installed as required.
1.16.11 L'entrepreneur doit protéger le navire contre les infestations de vermine potentielles (insectes, mammifères). Si une infestation se produit pendant la durée du contrat, l'entrepreneur doit veiller, à ses frais, à l'extermination de la vermine avant le départ du navire et la fin du contrat.	1.16.12 The Contractor must protect the vessel from the possibility of vermin infestation (insect/mammal). If an infestation does occur during the contract period the Contractor must bear all costs to ensure the vessel is made vermin free before the vessel's departure and contract completion.
1.17 Enregistrement des travaux en cours/Recording of Work in Progress	
1.17.1 L'AT et le CM peuvent enregistrer les travaux en cours par différentes méthodes, notamment au moyen de photos, de vidéos numériques ou sur film.	1.17.2 The TA may record any work in progress using various means including, but not limited to photography and video, digital or film.
1.18 Liste des espaces clos / List of Confined Spaces	
1.18.1 Les réservoirs à eau potable bâbord et tribord sont visés par les travaux du présent devis.	1.18.2 Port and starboard potable water tanks are subject to work described in this specification.
1.19 Peinture au plomb et couches de peinture / Lead Paint and Paint Coatings	
1.19.1 L'entrepreneur ne doit pas utiliser de peinture au plomb.	1.19.2 The Contractor must not use lead based paints.
1.19.3 Dans le passé, de la peinture au plomb a été utilisée pour peindre les navires de la GCC. Par conséquent, certains procédés de l'entrepreneur, tels que le meulage, le soudage et le brûlage pourraient provoquer la libération du plomb contenu dans la peinture. L'entrepreneur doit s'assurer que des analyses sont menées dans les zones de travail pour vérifier la présence de plomb dans la peinture, et que les travaux sont exécutés conformément aux règlements fédéraux et provinciaux pertinents.	1.19.4 CG ships have been painted with lead based paints in the past and as a result some of the Contractor's processes such as grinding, welding and burning may release this lead from the coatings. The Contractor must ensure that coatings in the affected work areas are tested for lead content and that the work is performed in accordance with applicable Federal and Provincial regulations.
1.19.5 L'entrepreneur doit obtenir l'approbation de Santé Canada quant aux peintures appliquées sur la surface extérieures des carènes assujetties aux règlements de Santé Canada et de l'Agence de réglementation de la lutte antiparasitaire.	1.19.6 The Contractor must provide HC product approval for underwater external hull surface paints controlled by HC and the Pest Management Regulatory Agency.
1.20 Matériaux contenant de l'amiante/Asbestos Containing Materials	
1.20.1 L'entrepreneur ne doit utiliser aucun matériau contenant de l'amiante.	1.20.2 The Contractor must not use any asbestos containing materials.
1.20.3 Avant le début des travaux	1.20.4 Prior to the start of work, the Contractor

l'entrepreneur doit consulter avec le CM pour la possibilité de matériaux contenant de l'amiante.	must consult with the CE on the possibility of asbestos containing materials in the work areas.
1.20.5 La manipulation de matériaux contenant de l'amiante doit être effectuée par du personnel formé et certifié pour le retrait de matériaux contenant de l'amiante conformément aux règlements fédéraux, provinciaux et municipaux en vigueur ainsi qu'au Manuel de sûreté et sécurité de la flotte. L'entrepreneur doit fournir à l'AT les certificats d'élimination pour l'ensemble des matériaux contenant de l'amiante ayant été retirés du navire de manière à prouver que le retrait a été effectué conformément aux règlements fédéraux, provinciaux et municipaux en vigueur.	1.20.6 Handling of any asbestos containing materials must be performed by personnel trained and certified in the removal of asbestos in accordance with Federal, Provincial and Municipal regulations in effect and in accordance with the Fleet Safety and Security Manual. The Contractor must provide the TA with disposal certificates for all asbestos containing material removed from the vessel indicating that the disposal was in accordance with Federal, Provincial and Municipal regulations in effect.
1.21 Retrait de matériel et d'équipement/Removed Materials and Equipment	
1.21.1 Tout l'équipement retiré dans le cadre du présent devis demeurera la propriété de la GCC, à moins d'avis contraire.	1.21.2 All removed equipment as a result of this specification must remain the property of the Coast Guard unless otherwise specified.
1.21.3 Tout matériel et équipement retiré pour élimination sera éliminé conformément aux règlements environnementaux en vigueur. Avant la fin du contrat l'entrepreneur doit soumettre à l'AT les certificats confirmant l'élimination de toutes matières dangereuse selon les règlements environnementaux en vigueur.	1.21.4 All materials and equipment removed for disposal must be disposed of in accordance with all applicable environmental regulations. Prior to the close of contract, the Contractor must submit disposal certificates to the TA attesting to the disposal of all hazardous waste in accordance with all applicable environmental regulations.
1.22 Soudage / Welding	
1.22.1 L'entrepreneur doit respecter les exigences de la « Spécification de soudage » document MCGE#3049562V1A de la GCC pour tous les travaux de soudage et d'examen non destructifs.	1.22.2 The Contractor must comply with all requirements as stated in CCG document EKME#3049715V3A "Welding Specification" for all welding and NDT inspections.
1.23 Installations électriques/Electrical Installations	
1.23.1 Toutes les installations et les réparations électriques doivent être effectuées conformément à la version la plus récente de la norme TP127E (Normes d'électricité de la Sécurité maritime de Transports Canada) et de la norme 45 de l'Institute of Electrical and Electronic Engineers (Recommended Practice for Electrical Installations on Shipboard).	1.23.2 All electrical installations and repairs must be carried out in accordance with the latest revisions of Transport Canada Marine Safety Electrical Standard TP127E and IEEE Standard 45 Recommended Practice for Electrical Installation on Ships.
1.24 Calendrier de production/Production Schedule	
1.24.1 L'entrepreneur doit fournir, avec les documents de soumission, une ébauche de	1.24.2 The Contractor must provide a draft production schedule showing milestones and

calendrier de production indiquant les jalons et la durée des tâches.	task durations with the bid documents.
1.24.3 L'entrepreneur doit fournir un calendrier de production détaillé en format PDF. Le calendrier de production doit être mis à jour toutes les deux semaines pendant la période des travaux.	1.24.4 The Contractor must provide a detailed production schedule in PDF format. The production schedule must be updated bi-weekly during the work period.
1.24.5 L'entrepreneur doit présenter au début de chaque jour une mise à jour des travaux à l'autorité technique et au personnel de la GCC.	1.24.6 The Contractor must conduct a daily briefing at the start of each working day with the TA and CCG personnel.

2 SERVICES

2.1 Renseignements généraux / General

2.1.1 L'entrepreneur doit fournir tous les échafaudages, les grillages, les grues ainsi que l'éclairage et tout autre service, équipement ou matériel de soutien nécessaires pour effectuer les travaux indiqués dans le présent devis.

2.1.2 All staging, crane services, screens, lighting and any other support services, equipment and materials necessary to carry out the work identified in this specification must be Contractor supplied.

3 RENSEIGNEMENTS SUR LE NAVIRE/VESSEL PARTICULARS

Nom :	NGCC Amundsen	Name:	CCGS Amundsen
Type :	Brise-glace/recherche et sauvetage/recherche scientifique	Type:	Icebreaker/Search & Rescue/Research Vessel
Puissance de propulsion :	10,142 kW	Propulsion Power:	10,142 kW
Année de construction :	1978	Year Built:	1978
Longueur hors tout:	98.33 m	Length Over All:	98.33 m
Largeur moulée :	19.51 m	Breadth, molded:	19.51 m
Creux moulé:	10.83 m	Depth, molded:	10.83 m
Tirant d'eau :	7.18 m	Draft:	7.18 m
Tonnage enregistré:	1742 t	Tonnage:	1742 t

4 LISTE DES ACRONYMES/LIST OF ACRONYMS

ACAI (CFAA)	L'Association canadienne d'alarme incendie	CCG (GCC)	Canadian Coast Guard
AT (TA)	Autorité technique	CE (CM)	Chief Engineer
BCS (CWB)	Bureau canadien du soudage	CEIEP (CEIEP)	Canadian Elevator Industry Education Program
BFE (CSM)	Biens fournis par l'entrepreneur	CLC (CCT)	Canada Labour Code
BFG (GSM)	Biens fournis par le gouvernement	CO (CO)	Chief Officer
CCN (SCC)	Conseil canadien des normes	CFAA (ACAI)	Canadian Fire Alarm Association
CCT (CLC)	Code canadien du travail	CSA (CSA)	Canadian Standards Association
CEIEP (CEIEP)	Canadian Elevator Industry Education Program	CSA ₂₀₀₁ (LMMC)	Canada Shipping Act, 2001
CM (CE)	Chef Mécanicien	CSM (BFE)	Contractor Supplied Material
CO (CO)	Chef Officier	CWB (CWB)	Canadian Welding Bureau
CSA (CSA)	Association canadienne de normalisation	DFO (MPO)	Department of Fisheries and Oceans
GCC (GCC)	Garde côtière canadienne	FDEER (RMDEI)	Fire Detection and Extinguishing Equipment Regulations
FEO (OEM)	Fabricant d'équipement d'origine	FSS (FSS)	International Code for Fire Safety Systems (IMO)
FSS (FSS)	Recueil international de règles applicables aux systèmes de protection contre l'incendie (OMI)	FSSM (MSSF)	Fleet Safety & Security Manual
FSSP (MSDS)	Fiche signalétique de sécurité du produit	FSR (RD)	Field Service Representative
FTP (FTP)	Code international pour l'application des méthodes d'essai au feu (OMI)	FTP (FTP)	International Code for Application of Fire Test Procedures (IMO)

IEEE (IEEE)	Institute of Electrical and Electronic Engineers	GSM (BFG)	Government Supplied Materials
LHT (LOA)	Longueur hors tout	HC (SC)	Health Canada
LMC	Loi de 2001 sur la Marine Marchande du Canada	IEEE (IEEE)	Institute of Electrical and Electronic Engineers
MPO (DFO)	Pêches et Océans Canada	IMO (OMI)	International Maritime Organization
MSSF (FSSM)	Manuel de sûreté et de sécurité de la Flotte	LOA (LHT)	Length over All
NACE (NACE)	National Association of Corrosion Engineers	MSDS (FSSP)	Material Safety Data Sheet
NFPA (NFPA)	National Fire Protection Association	NACE (NACE)	National Association of Corrosion Engineers
OMI (IMO)	Organisation Maritime Internationale	NFPA (NFPA)	National Fire Protection Association
RD (FSR)	Représentant détaché	OEM (FEO)	Original Equipment Manufacturer
RMDEI (FDEER)	Règlement sur le matériel de détection et d'extinction d'incendie	OHS (SST)	Occupational Health and Safety
SC (HC)	Santé Canada	PWGSC (TPSGC)	Public Works and Government Services Canada
SGSS (SSMS)	Système de gestion de la sûreté et de la sécurité	SCC (CCN)	Standards Council of Canada
SIMDU T (WHMIS)	Système d'information sur les matières dangereuses utilisées au travail	SSMS (SGSS)	Safety & Security Management System
SMTc (TCMS)	Sécurité maritime Transports Canada	TCMS (SMTc)	Transport Canada Marine Safety
SST (OHS)	Santé et sécurité au travail	TA (AT)	Technical Authority
TPSGC (PWGSC)	Travaux publics et Services gouvernementaux Canada	WHMIS (SIMDUT)	Workplace Hazardous Material Information System

5 REPRÉSENTANT DÉTACHÉ / FIELD SERVICE REPRESENTATIVE

5.1 NACE

5.1.1 La GCC fournira les services d'un inspecteur accrédité par NACE pour superviser les travaux indiqués dans le présent devis ayant trait au revêtement des réservoirs à eau potable pleinement conforme à l'article 3.9 de la section 7.A.12 du MSSF de la GCC.

5.1.2 The CCG will provide the services of an accredited NACE inspector to inspect the work undertaken in this specification applicable to potable water tank coatings in full compliance with article 3.9 of section 7.A.12 of the CCG FSSM.

5.1.3 Les inspections effectuées par l'inspecteur NACE ne dispensent pas l'entrepreneur de ses obligations d'inspection d'assurance de qualité.

5.1.4 Inspections carried out by the NACE inspector does not absolve the Contractor's of his required quality assurance inspections.

6 NETTOYAGE DES BOUCHAINS/BILGE CLEANING

6.1 Description/Identification

6.1.1 L'entrepreneur doit fournir la main d'œuvre et les matériaux requis pour effectuer un nettoyage approfondi des surfaces à l'intérieure des bouchains de la salle des moteurs de propulsion (cp 30-61), de la salle des machines arrière (cp 61-95) et de la salle des machines avant (cp 95-123).

6.1.2 The Contractor must supply all labour and materials required to thoroughly clean all surfaces located in the propulsion motor room bilge (fr 30-61), the after engine room bilge (fr 61-95) and the forward engine room bilge (fr 95-123).

6.2 Références/References

No. du doc./Doc. No.	Titre/Title	Emplacement/Location
6a-222-H-101-T	Arrangement général/General Arrangement	Ci-joint/Attached

6.3 Aspect technique/Technical	
6.3.1 L'entrepreneur doit enlever du navire tous les liquides, boues et autre déchets dangereux provenant du nettoyage des bouchains et les disposer conformément aux règlements environnementaux provinciaux et fédéraux en vigueur.	6.3.2 The Contractor must remove and dispose of all bilge liquids, sludge and other contaminants in full compliance with applicable provincial and federal environmental regulations.
6.3.3 L'entrepreneur sera responsable de toutes dépenses reliées à l'élimination des déchets dangereux provenant des travaux de ce contrat.	6.3.4 The Contractor must be responsible for all costs related to the removal and disposal of all hazardous waste resulting from this work.
6.3.5 À la terminaison des travaux, toutes les surfaces tels que spécifiées dans ce devis seront sèche, détartré et sans contaminants.	6.3.6 Upon completion of the cleaning process, all identified surfaces must be dry, descaled and free of all contaminants.
6.3.7 Les tôles de plancher des trois salles ci-mentionnées devront être soulevées, leurs sous-faces nettoyées et devront être réinstallées tel qu'original à la terminaison des travaux.	6.3.8 All deck plates fitted in the propulsion motor room, the forward engine room and the after engine room must be removed, their undersides cleaned and must be reinstalled as per original upon completion of all work.
6.3.9 L'Entrepreneur prendra toutes précautions nécessaires aux fins de protéger contre les dommages et les salissures, la machinerie et les circuits électriques se trouvant en proximité des travaux.	6.3.10 The Contractor must take all necessary precautions to protect from damage, contamination or soiling, all systems and equipment located in proximity of the cleaning process.
6.3.11 Tous les dommages et les salissures résultant des travaux de ce contrat seront réparés et nettoyés aux dépenses de l'Entrepreneur.	6.3.12 All damage and soiling resulting from the cleaning process must be repaired and cleaned at the Contractor's expense.
6.3.13 Le nettoyage des bouchains doit inclure toutes les surfaces décrit ci-dessous: <ul style="list-style-type: none"> • les sous-faces de machinerie qui sont exposé aux bouchains, y inclus les sous-faces des moteurs de propulsion • les cornières supportant les tôles de parquet • la tuyauterie située dessous les tôles de parquet 	6.3.14 The Contractor must include in the cleaning process all of the following surfaces exposed to the bilges in the identified spaces: <ul style="list-style-type: none"> • all machinery undersides which are exposed to the bilges, including the undersides of the port and starboard propulsion motors • all framing fitted to support the deck plates • all piping fitted below the deck plates
6.3.15 Avant le commencement des travaux, l'Entrepreneur doit communiquer au CM les risques pour la santé qui sont reliés au processus de nettoyage et qui pourraient avoir des répercussions sur le personnel situé en proximité des travaux.	6.3.16 The Contractor must advise the CE prior to the start of the cleaning process, of any health hazards which may adversely affect the wellbeing of ship personnel in proximity of the cleaning process.
6.3.17 Aux fins de soumission, l'Entrepreneur doit soumissionner pour l'élimination des déchets dangereuses en \$/litre pour un estimé 5000 litres de liquide et 1000 litres de boue et	6.3.18 The Contractor must bid in dollars per liter (\$/ltr) on the removal and disposal of a 5000 liters of oily bilge water and 1000 litres of oily bilge sludge and solids. The delta between

solide. L'écart entre celui-ci et le volume finale actuel sera déterminé au prorata et traité d'imprévu séparément.	this volume and the final volume removed must be prorated and processed as unknown work.
6.4 Preuve de performance/Proof of Performance	
6.4.1 Après le nettoyage des bouchains et avant la réinstallation des tôles de plancher, l'Entrepreneur permettra au CM et à l'AT l'opportunité d'inspecter les travaux.	6.4.2 Following the cleaning process and prior to the reinstallation of all deck plates, the Contractor must afford the vessel's CE & TA the opportunity to inspect all surfaces identified for cleaning.
6.5 Produits Livrables/Deliverables	
6.5.1 Avant le commencement des travaux, l'Entrepreneur doit fournir au CM une copie des fiches signalétiques de sécurité se rapportant à chaque produit prévues pour utilisation pendant les travaux de ce contrat.	6.5.2 Prior to the start of work, the Contractor must submit to the CE copies of all current material safety data sheets (MSDS) applicable to all cleaning products used during the cleaning process.
6.5.3 Avant la clôture du contrat, l'Entrepreneur doit fournir au CM les certificats attestant à l'élimination réglementaire de tous les déchets dangereux résultant des travaux de ce contrat.	6.5.4 Prior to the close of contract, the Contractor must provide to the CE disposal certificates attesting to the regulatory disposal of all hazardous waste resulting from the cleaning process.

7 RÉSERVOIRS EAU POTABLE / POTABLE WATER TANKS

7.1 Description/Identification

7.1.1 L'entrepreneur doit remplacer le revêtement actuel sur les surfaces internes des réservoirs à eau potable bâbord et tribord avec un revêtement certifié NSF 61 à 100% polymère acrylique à base d'eau MarineCoat de Astek Composites Inc., ou équivalent. Le revêtement des réservoirs à eau potable utilisé doit avoir un minimum de 5 ans de preuve de performance pour la protection contre la corrosion dans les réservoirs à eau potable.

7.1.2 The Contractor must replace the existing coating on all internal surfaces of the port and starboard potable water tanks with a NSF 61 certified 100% water based acrylic polymer coating such as Astek Composites Inc. MarineCoat or equivalent. The potable water tank coating to be used must have a minimum of five years proven performance for corrosion protection inside shipboard potable water tanks.

7.2 Références/References

No. du doc./Doc. No.	Titre/Title	Emplacement/Location
7a	Calcul des surfaces internes des réservoirs à eau potable/Potable Water Tank Internal Surface Areas	Ci-joint/Attached
7b	Specification For The Application of Astek MarineCoat Potable Water Lining System On Steel Surfaces (Uniquement Anglais)	Ci-joint/Attached
7c-7.A.12	Qualité de l'eau potable/Potable Water Quality	Ci-joint/Attached

7.3 Aspect technique/Technical	
7.3.1 L'Entrepreneur doit effectuer une inspection visuelle profonde pour défauts de toutes les surfaces internes, de la tuyauterie, des raccords ainsi que de tous les appareils montés à l'intérieur des deux réservoirs à eau potable. Toutes les défauts et les réparations recommandées doivent être rapportées au CM et à l'AT sans délais. Sauf indication contraire, tous les travaux de réparations doivent être terminés avant le début du processus de revêtement.	7.3.2 The Contractor must perform a comprehensive visual inspection for defects of all internal tank surfaces, piping, fittings and appliances inside both potable water tanks. All defects and recommended repairs must be immediately reported to the CE and TA. Unless otherwise stated, all repairs must be completed prior to the start of the recoating process.
7.3.3 Avant le début du processus de revêtement, tous les raccords et les appareillages se trouvant à l'intérieur des réservoirs à eau potable et exempté du revêtement doivent être protégé contre le dommage des processus de préparation de surfaces ainsi que le processus de revêtement.	7.3.4 Prior to the start of the coating process, all tank internal fittings and appliances not identified for recoating must be protected against damage from the surface preparation and recoating process.
7.3.5 Tous les revêtements actuels sur les surfaces internes des réservoirs à eau potable doivent être enlevés par un entrepreneur ayant un minimum de 5 ans d'expérience maritime dans le domaine de l'enlèvement des revêtements protecteurs à bord des navires.	7.3.6 All existing internal potable water tank coatings must be removed by a Contractor having a minimum of 5 years' marine experience specializing in the removal of shipboard protective coatings.
7.3.7 L'Entrepreneur doit préparer tous les surfaces internes des réservoirs conformément aux spécifications du fabricant pour l'application de la peinture.	7.3.8 The Contractor must prepare all internal tank surfaces in accordance with the coating manufacturer's specification for the paint application.
7.3.9 Le revêtement doit être appliqué sur tous les surfaces internes des réservoirs à eau potable conformément aux spécifications du fabricant.	7.3.10 The coating must be applied to all internal potable water tank surfaces in accordance with manufacturer's specifications.
7.3.11 Un RD du fabricant doit être présent pour superviser le processus de revêtement des deux réservoirs à eau potable.	7.3.12 A manufacturer's FSR must be present to supervise the entire recoating process for both potable water tanks.
7.3.13 L'application du revêtement doit être effectuée par un applicateur autorisé par le fabricant.	7.3.14 The coating application must be performed by a manufacturer's authorized applicator.
7.3.15 Conformément à l'article 3.9 de la section 7.A.12 du MSSF de la GCC un inspecteur NACE fourni par la GCC sera présent pour valider le processus de revêtement des deux réservoirs à eau potable.	7.3.16 In accordance with article 3.9 of section 7.A.12 of the CCG FSSM a CCG furnished NACE inspector must be present to verify the entire recoating process for both potable water tanks.
7.3.17 Les réservoirs d'eau potable ne doivent être scellés et remplis de liquide que lorsque le temps de durcissement tel que spécifié par le fabricant du revêtement s'est écoulé.	7.3.18 The potable water tanks must not be sealed and filled with any liquid until the manufacturer's specified coating cure time has elapsed.

Désinfection des réservoirs / Tank Disinfection	
7.3.19 Suite aux travaux intérieurs des réservoirs à eau potable et avant de les remettre en service l'entrepreneur doit désinfecter et rincer les deux réservoirs conformément à l'article 3.5 « Désinfection » de la section 7.A.12 du MSSF de la GCC.	7.3.20 Following the completion of all work inside the potable water tanks and prior to returning the tanks to service, the Contractor must disinfect and flush both tanks in accordance with article 3.5 "Disinfection" of section 7.A.12 of the GCC FSSM.
7.3.21 L'entrepreneur doit fournir tous l'équipement et le matériel requis pour la désinfection et le rinçage.	7.3.22 The Contractor must supply all of the equipment and materials required for tank disinfection and subsequent flushing.
7.3.23 Suite au processus de désinfection et avant de remettre les réservoirs en service l'entrepreneur doit remplir les deux réservoirs avec de l'eau potable et faire des analyses conformément à l'article 3.6 « Analyse de l'eau potable » de la section 7.A.12 du MSSF de la GCC.	7.3.24 Following the disinfection process and prior to returning the tanks to service, the Contractor must fill both tanks with potable water and test both tanks in accordance with article 3.6 "Potable Water Testing" of section 7.A.12 of the GCC FSSM.
7.3.25 Tous les coûts attachés à l'analyse de l'eau potable seront couverts par l'entrepreneur.	7.3.26 All costs related to water testing must be covered by the Contractor.
7.4 Preuve de performance/Proof of Performance	
7.4.1 L'entrepreneur doit permettre au CM, à l'AT et à l'inspecteur de SMTC l'opportunité d'examiner l'intérieur de des réservoirs à eau potable avant de les fermer.	7.4.2 The Contractor must afford the CE, the TA and the attending TCMS surveyor the opportunity to examine both potable water tank internals prior to closing each tank.
7.4.3 L'entrepreneur doit s'assurer que les réservoirs sont certifiés pour accès pendant la durée des travaux internes de ce devis.	7.4.4 The Contractor must ensure that both tanks remain certified for entry for the duration of all internal work in this specification.
7.5 Produits Livrables/Deliverables	
7.5.1 L'entrepreneur doit fournir un rapport sur les conclusions, les travaux et l'état final des travaux prévus à la présente section conformément au plan d'inspection, de test et d'essais.	7.5.2 The Contractor must provide a report of the findings, work and final condition of the work of this section in accordance with the Inspection, Test and Trials Plan.
7.5.3 Avant la fin du contrat, l'entrepreneur doit remettre à l'autorité technique les certificats d'élimination des déchets et de l'eau hyperchlorée.	7.5.4 The Contractor must provide waste and hyper-chlorinated water disposal certificates to the TA prior to the completion of the contract
7.5.5 Avant la fin du contrat, l'entrepreneur doit remettre à l'autorité technique les certificats d'entrée des réservoirs.	7.5.6 The Contractor must provide copies of all tank entry certificates to the TA prior to the completion of the contract.
7.5.7 Des copies PDF des résultats des analyses d'eau seront remises au CM et à l'AT dès leurs émissions par le laboratoire d'analyse.	7.5.8 PDF copies of all final test results must be submitted to the CE and the TA upon issuing by the testing laboratory.

8 GUINDEAU AVANT 5 ANS/BOW WINDLASS 5 YR

8.1 Description/Identification

8.1.1 L'Entrepreneur doit fournir tous le matériel, l'équipement, les outils et la main d'œuvre pour effectuer l'inspection périodique de 5 ans sur le guindeau avant conformément au « Règlement sur les machines de navires » de la LMMC2001.

8.1.2 The Contractor must provide all materials, equipment, tools and labour to perform the 5 year periodic inspection of the bow windlass in full accordance with the "Marine Machinery Regulations" of the CSA2001.

8.2 Références/References

No. du doc./Doc. No.	Titre/Title	Emplacement/Location
8a	Manuel d'entretien/Maintenance Manual	À bord/Onboard
8b- SOR-90-264	Règlement sur les machines de navires /Marine Machinery Regulations	LMMC2001/CSA2001

8.3 Aspect technique/Technical	
8.3.1 L'entrepreneur doit prendre toutes les précautions incluant les procédures de verrouillage et identification afin d'éviter le fonctionnement accidentel du guindeau pendant les travaux d'inspection et d'entretien.	8.3.2 The Contractor must take all necessary precautions including lock out/tag out procedures to prevent the accidental operation of the bow anchor windlass during all inspection and servicing work.
8.3.3 Le démontage et l'inspection des pièces doivent être complétés pour la fin de la première semaine du radoub. L'entrepreneur doit signaler tous les défauts ainsi que les mesures correctives recommandées à l'AT sans délais.	8.3.4 Disassembly and inspection work must be completed by the end of the first week of the refit period. The Contractor must immediately report to the TA all defects along with recommended corrective action.
8.3.5 Tous les fluides, graisses et autres produits hasardeux devront être éliminés conformément aux règlements environnementaux fédéraux, provinciaux et municipaux en vigueur.	8.3.6 All removed hydraulic fluid, grease and hazardous waste must be disposed of in accordance with applicable federal, provincial and municipal environmental regulations.
8.3.7 Tous les travaux devront être effectués conformément aux spécifications du fabricant.	8.3.8 All work must be completed in accordance with manufacturer's specifications.
8.3.9 Tous les systèmes et composantes du guindeau devront être remontés en utilisant des pièces et matériaux BFE incluant les joints FEO, les raccords graisseur en acier inoxydable 316 à haute pression, graisse et fluide hydraulique.	8.3.10 All windlass systems and component assemblies must be reassembled using manufacturer specified new CSM parts and materials including OEM seals and gaskets, 316 high-pressure stainless steel grease nipples, grease and hydraulic fluid.
8.3.11 Tous les travaux hydrauliques devront être effectués par un technicien certifié compagnon en systèmes hydrauliques.	8.3.12 All hydraulic work must be performed by a certified journeyman hydraulic technician.
8.3.13 Tous les travaux électriques devront être effectués par un compagnon électricien certifié.	8.3.14 All electrical work must be performed by a certified journeyman electrician.
8.3.15 Tous les essais NDT devront être effectués par un compagnon technicien NDT certifié au niveau 2.	8.3.16 All NDT testing must be performed by a certified journeyman level 2 NDT technician.
8.3.17 Un technicien NDT certifié niveau 2 pour le ressuage doit effectuer des essais pour fissures sur toutes les pièces porteuses de charges (à l'exception du boîtier du guindeau) et doit enregistrer les résultats.	8.3.18 A level 2 NDT Technician certified for dye penetrant testing must test all windlass load bearing components (except the windlass housing) for cracks and record findings.
8.3.19 Les jeux et les faux-ronds des pièces porteuses de charges du guindeau incluant les tourillons, bagues et roulements doivent être enregistrés et comparés aux spécifications du fabricant.	8.3.20 Clearance and runout readings of all windlass load bearing components including pins, bushings and bearings must be recorded and compared against manufacturer's specifications.
8.3.21 Tous les composantes sujettes à l'usure doivent être mesurées et les lectures enregistrées et comparées aux tolérances du	8.3.22 All components subject to wear must be measured and readings must be recorded and compared against manufacturer's tolerances.

manufacturier.	
8.3.23 Toutes les composantes sujettes à la corrosion doivent être évaluées et le cas échéant recommandé pour remplacement.	8.3.24 All components subject to corrosion must be cleaned and assessed for replacement.
8.3.25 Un technicien NDT certifié niveau 2 pour les essais par magnétoscopie doit effectuer un minimum de 10 essais sur le boîtier du guindeau aux endroits les plus susceptibles aux défaillances structurales et doit enregistrer les résultats.	8.3.26 A level 2 NDT Technician certified for magnetic particle testing must perform a minimum of 10 magnetic particle examinations of the windlass housing at areas most susceptible to structural failure and record all findings.
8.3.27 Tout le fluide du système hydraulique et de ses composantes incluant les boyaux, tuyaux, les pompes, le moteur et le frein hydraulique, le réservoir et les contrôles doit être éliminé et tous les composantes démontées, nettoyées et inspectées pour défauts.	8.3.28 The windlass hydraulic system and all components including all hoses, pipes, hydraulic pumps and motor, the hydraulic brake, the reservoir and controls must be completely drained of all fluid, disassembled, cleaned and all components inspected for defects.
8.3.29 Tout l'huile du boîtier d'engrenage doit être éliminé et tous les composantes démontées, nettoyées et inspectées pour défauts.	8.3.30 The windlass gear case must be completely drained of all oil, disassembled, cleaned and all components inspected for defects.
8.3.31 L'entrepreneur doit démonter complètement le guindeau, nettoyer tous les composantes et les inspecter pour défauts.	8.3.32 The windlass must be completely disassembled, all components cleaned and inspected for defects.
a)	a)
8.3.33 Les jeux d'entredent de tous les engrenages doivent être mesurés, enregistrés et comparés avec les spécifications du manufacturier.	8.3.34 All gears must be measured for backlash and readings recorded and compared against manufacturer's specifications.
8.3.35 Toutes les attaches, les appareils de verrouillage, les goujons et les cales du guindeau doivent être inspectés pour défauts et les mesures correctives le cas échéant signalées à l'AT sans délais.	8.3.36 All windlass fasteners, locking devices, dowels and shims must be inspected for defects and corrective action as applicable reported immediately to the TA.
8.3.37 Avant le remontage du guindeau, tous les points de graissage ainsi que leur canalisation et la tuyauterie devront être purgés et nettoyés de toute graisse résiduelle.	8.3.38 Prior to reassembly, all windlass lubrication points, tubes and grease conduits must be thoroughly flushed clean of all residual grease.
8.3.39 Suite à l'inspection et les réparations le cas échéant, l'ensemble du guindeau, les pompes, le moteur et le frein hydraulique doivent être remonté tel qu'à l'origine et conformément aux spécifications du manufacturier en utilisant des joints d'étanchéité et roulements BFE FEO neufs et des raccords graisseur en acier inoxydable 316 à haute pression.	8.3.40 Following inspection and repairs, the windlass assembly, hydraulic pumps, motor and brake assembly must be reassembled using new CSM OEM seals, gaskets, ball and roller bearings, new 316 high-pressure stainless steel grease nipples and reinstalled as per original and in accordance with manufacturer's specifications.
8.3.41 Avant leur remontage, des essais en atelier doivent être effectués sur les pompes, le	8.3.42 Prior to reinstallation, the hydraulic pumps, motor and brake assembly must be bench

moteur et le frein hydraulique pour vérifier leur fonctionnement conforme aux spécifications du fabricant. Les paramètres et les observations doivent être enregistrés et soumis à l'AT.	tested for operation in accordance with manufacturer's specifications. All parameters and observations must be recorded and submitted to the TA.
8.3.43 Suite à l'inspection, les essais et les réparations le cas échéant, le système hydraulique au complet doit être remonté tel qu'à l'origine et conformément aux spécifications du fabricant en utilisant des joints d'étanchéité et filtres BFE FEO neufs.	8.3.44 Following inspection, testing and repairs, the complete hydraulic system must be reassembled using new CSM OEM seals, gaskets and fluid filters and reinstalled as per original and in accordance with manufacturer's specifications.
8.3.45 Suite au remontage, le système hydraulique doit être nettoyé de tous contaminants à une qualité de code 20/18/15 de la norme ISO 4406.	8.3.46 Following reassembly, the complete hydraulic system must be thoroughly cleaned of all contaminants to ISO 4406 contamination code 20/18/15.
8.3.47 Les filtres BFE neufs doivent être installés au système hydraulique suite au processus de nettoyage et le système hydraulique doit être rempli de fluide hydraulique de type et au niveau opérationnel conforme aux spécifications du fabricant en assurant que tout l'air est purgé du système.	8.3.48 Following system cleaning, new CSM system filters must be installed and the hydraulic system must be replenished with new CSM manufacturer's specified hydraulic fluid to manufacturer's specified operational levels ensuring that all air has been purged from the system.
8.3.49 Avant de remettre le guindeau en service, tous les points de graissage doivent être remplis de nouveau avec de la graisse BFE neuve et aux niveaux permettant un graissage optimal tel que spécifiés par le fabricant.	8.3.50 Prior to returning the windlass to service, all lubrication points must be replenished with new CSM manufacturer's specified grease to specified levels for optimum lubricating conditions.
8.3.51 Avant de remettre le guindeau en service, le boîtier d'engrenage doit être rempli de nouveau avec de l'huile de type et au niveau opérationnel conforme aux spécifications du fabricant.	8.3.52 Prior to returning the windlass to service, the gearbox must be replenished with new CSM manufacturer's specified oil to the specified operational level.
8.3.53 Tous les circuits électriques, les composants et appareillages associés au guindeau incluant le démarreur du moteur, les appareils protecteurs, les contrôles et les systèmes de chauffage d'huile doivent être inspectés pour défauts et testés pour leur intégrité électrique et leurs fonctionnalités complètes.	8.3.54 All windlass electrical circuitry, associated components and appliances including the motor starter, all protective devices, controls and oil heating systems must be inspected for defects and tested for electrical integrity and full functionality.
8.3.55 L'ensemble du moteur électrique doit être débranché, enlevé et démonté, nettoyé au « CO ₂ blast » et inspecté pour défauts. Tout le filage et les enroulements doivent être testés pour leur intégrité électrique et les lectures comparés aux spécifications du fabricant.	8.3.56 The electric motor assembly must be disconnected, removed and disassembled, CO ₂ blast cleaned and inspected for defects. All cables and windings must be tested for electrical integrity and readings compared to manufacturer's specifications.
8.3.57 Suite à l'inspection, l'ensemble du moteur électrique doit être remonté, un équilibrage et essai à l'atelier effectués et	8.3.58 Following inspection, the electric motor assembly must be reassembled, balanced, bench tested and installed in accordance with

installé conformément aux spécifications du fabricant en utilisant des roulements neufs BFE classé équivalent ou meilleur que les originaux et conforme aux spécifications du fabricant. Les paramètres de l'essai doivent être enregistrés et comparés aux spécifications du fabricant et les résultats soumis à l'AT.	manufacturer's specifications using new CSM bearings rated equivalent or better to original and consistent with manufacturer's specifications. Test parameters must be recorded and compared to motor manufacturer's specifications and results submitted to the TA.
8.3.59 L'entrepreneur doit effectuer la révision des freins manuels conformément aux spécifications du fabricant. Les bandes de freins devront être remplacées par des bandes OEM (Original Equipment Manufacturer) fournies par l'entrepreneur.	8.3.60 The Contractor must overhaul the manual brakes in accordance with manufacturer's specifications. The brake bands must be replaced by OEM (Original Equipment Manufacturer) bands supplied by the Contractor.
8.3.61 Suite au remontage et aux essais du guindeau, tous les surfaces dont le revêtement actuel est endommagé ou n'est plus performant doivent être recouvertes conformément aux spécifications du fabricant du revêtement. L'entrepreneur doit soumissionner pour la réparation des revêtements de 40% (2 m ²) des surfaces et 100% (5 m ²) pour la couche finale sur toutes les surfaces.	8.3.62 Following complete reassembly and testing of the windlass, all areas where the windlass's existing protective coating is damaged or no longer effective, must be recoated in accordance with the coating manufacturer's specifications. The Contractor must bid on repairing 40% (2 m ²) of all existing coated surfaces and on 100% (5 m ²) for the final top coat on all existing coated surfaces.
8.3.63 Toutes les surfaces doivent être préparées conformément aux spécifications du fabricant du revêtement avant l'application du revêtement. Les revêtements utilisés doivent être des revêtements marins compatibles avec le système de peinture actuel du navire et devront être appliqués comme suit : a) Deux (2) couches primaires de couleur blanc, épaisseur 3 mils sec par couche sur les surfaces au métal nu, b) Deux (2) couches intermédiaires de couleur chamois sur toutes les surfaces, épaisseur 2 mils sec par couche. c) Deux (2) couches de finition rouge pont, sur la tuyauterie et les éléments près du pont, qui sont au métal. d) Moteur électrique deux couches de couleur gris.	8.3.64 All surfaces must be prepared in accordance with the coating manufacturer's specifications prior to coating application. Coatings must be marine coatings compatible with the coating system in place and must be applied as follows: a) Two (2) coats: primer white colour at 3 mils dry per layer on exposed metal b) Two (2) coats: intermediate Buff colour at 2 mils dry per layer on all surfaces. c) Two (2) coats: top coat, red deck, paint on the piping and bare metal components near the deck. d) Electric motor - two coats epoxy grey
8.3.65 Tous les marquages du guindeau doivent être maintenus tels qu'à l'origine. Toutes les surfaces du guindeau et les surfaces des composantes du guindeau n'étant pas revêtues au préalable ne devront pas être perturbées et devront être protégées contre les effets de préparation des surfaces et de revêtement.	8.3.66 All windlass markings must be maintained as per original. All windlass and windlass component surfaces not previously coated must remain undisturbed and protected against damage from the surface preparation and recoating process.

8.3.67 L'entrepreneur doit, s'il y a lieu, avant l'installation du guindeau sur le pont, appliquer un scellant sur le contour des assises où l'équipement vient se boulonner.	8.3.68 The Contractor must, if necessary, apply a sealer around the footing where the equipment is bolted before installing the windlass on the deck.
8.3.69 L'entrepreneur doit fournir et appliquer du ruban adhésif anticorrosion sur tous les raccords de boyaux.	8.3.70 The Contractor must supply and apply an anticorrosion tape on all hose connectors.
8.4 Preuve de performance/Proof of Performance	
8.4.1 Suite au démontage et au nettoyage de toutes les composantes du guindeau et avant le remontage, l'entrepreneur doit permettre au CM, à l'AT et à l'inspecteur SMTC l'opportunité d'inspecté toutes les composantes du guindeau.	8.4.2 Following the disassembly and cleaning of all windlass components and prior to reassembly, the Contractor must afford the CE, the TA and the attending TCMS surveyor the opportunity to inspect all windlass components.
8.4.3 L'entrepreneur doit permettre au CM, à l'AT et à l'inspecteur SMTC l'opportunité de témoigner les essais en atelier des pompes et moteurs tels que spécifier dans cette section.	8.4.4 The Contractor must afford the CE, the TA and the attending TCMS surveyor the opportunity to witness all pump and motor bench testing as specified in this section.
8.4.5 Suite au remontage et à l'installation de tous les ensembles des systèmes et des composantes, l'entrepreneur doit permettre au CM, à l'AT et à l'inspecteur SMTC l'opportunité de témoigner un essai de fonctionnalité complète du guindeau et tous les systèmes et appareillages associés au guindeau.	8.4.6 Following reassembly and installation of all windlass systems and component assemblies, the Contractor must afford the CE, the TA and the attending TCMS surveyor the opportunity to witness a full functionality test of the windlass and associated systems and appliances.
8.5 Produits Livrables/Deliverables	
8.5.1 Avant la fin du contrat, l'entrepreneur doit soumettre à l'AT en français et en anglais par courriel un rapport complet en format PDF avec en-tête non-protégé de tous les essais et de toutes les constatations incluant tous les mesures et les lectures enregistrées et les travaux effectués incluant les réparations et les pièces remplacées.	8.5.2 Prior to the close of contract, the Contractor must submit to the TA in English and in French by email a full report in unprotected PDF format with letter head of all testing and of all findings including all recorded measurements and readings and of all work performed including repairs and parts replaced.

9 GRUES TRIBORD 5 ANS/ STBD CRANES 5 YR

9.1 Description/Identification

9.1.1 L'Entrepreneur doit fournir tous le matériel, l'équipement, les outils et la main d'œuvre pour effectuer les essais et l'examen approfondi des grues tribord avant et arrière conformément au « Règlement sur les cargaisons, la fumigation et l'outillage de chargement » Partie 1 « Cargaison » de la LMMC2001.

9.1.2 The Contractor must provide all materials, equipment, tools and labour to perform the testing and thorough examination of the starboard forward and aft hydraulic cranes in full accordance with Division 1 "Cargo Gear" of the CSA2001 "Cargo, Fumigation and Tackle Regulations".

9.2 Références/References

No. du doc./Doc. No.	Titre/Title	Emplacement/Location
9a	Manuel d'entretien pour grue John T. Hepburn / John T. Hepburn Crane Maintenance Manual	Ci-joint/Attached
9b- SOR-2007-128	Règlement sur les cargaisons, la fumigation et l'outillage de chargement/Cargo, Fumigation and Tackle Regulations	LMMC2001/CSA2001
9c-85-0445 (0907-03)	Formulaire T2 Certificat d'essai et d'examen approfondi des appareils de levage/Certificate of Test and Thorough Examination of Lifting Appliances	Ci-joint/Attached

9.3 Aspect technique/Technical	
9.3.1 Les travaux de cette section s'appliqueront aux grues tribord avant et arrière.	9.3.2 All work described in this section must apply to the starboard forward and starboard after cranes.
9.3.3 L'entrepreneur doit prendre toutes les précautions incluant les procédures de verrouillage et identification afin d'éviter le fonctionnement accidentel des deux grues pendant les travaux d'inspection et d'entretien.	9.3.4 The Contractor must take all necessary precautions including lock out/tag out procedures to prevent the accidental operation of both cranes during all inspection and servicing work.
9.3.5 Le démontage et l'inspection des pièces doit être complété pour la fin de la deuxième semaine du radoub. L'entrepreneur doit signaler à l'AT sans délais tous les déficiences observées ainsi que les mesures correctives recommandées.	9.3.6 Disassembly and inspection work must be completed by the end of the second week of the refit period. The Contractor must immediately report to the TA all identified deficiencies along with recommended corrective action.
9.3.7 Toutes les attaches, les appareils de verrouillage, les goujons et les cales de la grue doivent être inspectés pour défauts et les mesures correctives le cas échéant signalées à l'AT sans délais.	9.3.8 All crane fasteners, locking devices, dowels and shims must be inspected for defects and corrective action as applicable reported immediately to the TA.
9.3.9 Tous les fluides, graisses et autres produits hasardeux devront être éliminés conformément aux règlements environnementaux fédéraux, provinciaux et municipaux en vigueur.	9.3.10 All removed hydraulic fluid, grease and hazardous waste must be disposed of in accordance with applicable federal, provincial and municipal environmental regulations.
9.3.11 Tous les travaux devront être effectués conformément aux spécifications du manufacturier.	9.3.12 All work must be completed in accordance with manufacturer's specifications.
9.3.13 Tous les systèmes et composantes de grues devront être remontés en utilisant des pièces et matériaux BFE incluant les joints FEO, les raccords graisseur en acier inoxydable 316 à haute pression, graisse et fluide hydraulique.	9.3.14 All crane systems and component assemblies must be reassembled using manufacturer specified new CSM parts and materials including OEM seals and gaskets, 316 high-pressure stainless steel grease nipples, grease and hydraulic fluid.
9.3.15 Tous les travaux hydrauliques devront être effectués par un technicien certifié compagnon en systèmes hydrauliques.	9.3.16 All hydraulic work must be performed by a certified journeyman hydraulic technician.
9.3.17 Tous les travaux électriques devront être effectués par un compagnon électricien certifié.	9.3.18 All electrical work must be performed by a certified journeyman electrician.
9.3.19 Tous les essais NDT devront être effectués par un compagnon technicien NDT certifié au niveau 2.	9.3.20 All NDT testing must be performed by a certified journeyman level 2 NDT technician.
9.3.21 Un technicien NDT certifié niveau 2 pour le ressuage doit effectuer des essais pour fissures sur toutes les pièces porteuses de charges et doit enregistrer les résultats.	9.3.22 A level 2 NDT Technician certified for dye penetrant testing must test all crane load bearing components (except main structural components i.e. crane boom and base) for cracks and record findings.

9.3.23 Les jeux et les faux-ronds des pièces porteuses de charges de la grue incluant les tourillons, bagues, roulements et composantes des cylindres hydrauliques doivent être enregistrées et comparées aux spécifications du fabricant.	9.3.24 Clearance and runout readings of all crane load bearing components including pins, bushings, bearings and hydraulic cylinder components must be recorded and compared against manufacturer's specifications.
9.3.25 Tous les composantes sujettes à l'usure doivent être mesurées et les lectures enregistrées et comparées aux tolérances du fabricant.	9.3.26 All components subject to wear must be measured and readings must be recorded and compared against manufacturer's tolerances.
9.3.27 Toutes les composantes sujettes à la corrosion doivent être évaluées et le cas échéant recommandé pour remplacement.	9.3.28 All components subject to corrosion must be cleaned and assessed for replacement.
9.3.29 Un technicien NDT certifié niveau 2 pour les essais par magnétoscopie doit effectuer un minimum de 10 essais par magnétoscopie chaque sur la flèche et sur la base de la grue aux endroits les plus susceptibles aux défaillances structurales et doit enregistrer les résultats.	9.3.30 A level 2 NDT Technician certified for magnetic particle testing must perform a minimum of 10 magnetic particle examinations each of the crane boom and the crane base at areas most susceptible to structural failure and record all findings.
9.3.31 Tous les câbles et les accessoires de manutention devront être inspectés pour défauts et leurs certifications renouvelées.	9.3.32 All cables and loose gear must be removed, inspected for defects and recertified.
9.3.33 Tout le fluide hydraulique des systèmes et composantes incluant les contrôles de grue doit être éliminé et tous les composantes démontées, nettoyées et inspectées pour défauts.	9.3.34 All crane hydraulic systems and components including crane controls must be completely drained, disassembled, cleaned and all components inspected for defects.
9.3.35 Tous les ensembles de cylindres hydrauliques devront être débranchés, enlevés, complètement démontés, nettoyés et inspectés pour défauts.	9.3.36 All hydraulic cylinder assemblies must be disconnected, removed, completely disassembled cleaned and inspected for defects.
9.3.37 Suite aux inspections et réparations le cas échéant, tous les ensembles de cylindres devront être remontés en utilisant des joints d'étanchéité BFE FEO neufs tel qu'à l'origine et conformément aux spécifications du fabricant.	9.3.38 Following inspection and repairs, all cylinder assemblies must be reassembled using new CSM OEM seals and gaskets and reinstalled as per original and in accordance with manufacturer's specifications.
9.3.39 L'ensemble flèche de grue doit être complètement démonté, nettoyé et inspecté pour défauts.	9.3.40 The crane boom assembly must be completely disassembled, cleaned and inspected for defects.
9.3.41 Avant le remontage de la grue, tous les points de graissage ainsi que leur canalisation et la tuyauterie devront être purgés et nettoyés de toute graisse résiduelle.	9.3.42 Prior to reassembly, all crane lubrication points, tubes and grease conduits must be thoroughly flushed clean of all residual grease.
9.3.43 Suite à l'inspection et les réparations le cas échéant, l'ensemble de la flèche de grue doit être remonté tel qu'à l'origine et conformément aux spécifications du fabricant en utilisant	9.3.44 Following inspection and repairs, the crane boom assembly must be reassembled using new CSM OEM seals and gaskets, new 316 high-pressure stainless steel grease nipples and

des joints d'étanchéité BFE FEO neufs et des raccords graisseur en acier inoxydable 316 à haute pression.	reinstalled as per original and in accordance with manufacturer's specifications.
9.3.45 Toutes les composantes du mécanisme d'orientation qui sont visible et accessible devront être nettoyées et inspectées pour défauts.	9.3.46 All accessible and visible slewing assembly components must be cleaned and inspected for defects.
9.3.47 Le boîtier d'engrenage du mécanisme d'orientation doit être purgé de son huile de lubrification, nettoyé et inspecté pour défauts.	9.3.48 The slewing gearbox must be completely drained of all oil, cleaned and inspected for defects.
9.3.49 L'ensemble du moteur du mécanisme d'orientation doit être démonté, nettoyé et tous les composantes inspectées pour défauts.	9.3.50 The slewing motor assembly must be disassembled, cleaned and all components inspected for defects.
9.3.51 Les jeux d'entredent de tous les engrenages du mécanisme d'orientation doivent être mesurés, enregistrés et comparés avec les spécifications du fabricant.	9.3.52 All slewing assembly gears must be measured for backlash and readings recorded and compared against manufacturer's specifications.
9.3.53 Suite à l'inspection et les réparations le cas échéant, l'ensemble du moteur du mécanisme d'orientation doit être remonté tel qu'à l'origine et conformément aux spécifications du fabricant en utilisant des joints d'étanchéité et roulements BFE FEO neufs.	9.3.54 Following inspection and repairs, the slewing motor assembly must be reassembled using new CSM OEM seals, gaskets and bearings and reinstalled as per original and in accordance with manufacturer's specifications.
9.3.55 L'ensemble treuil et moteur du tambour de treuil doivent être démontés, nettoyés et toutes les composantes inspectées pour défauts.	9.3.56 The hoist and hoist drum motor assembly must be disassembled, cleaned and all components inspected for defects.
9.3.57 Suite à l'inspection et les réparations le cas échéant, le système hydraulique incluant l'ensemble des contrôles de grue, l'ensemble treuil et moteur de treuil doit être remonté tel qu'à l'origine et conformément aux spécifications du fabricant en utilisant des joints d'étanchéité, filtres et roulements BFE FEO neufs.	9.3.58 Following inspection and repairs, the hydraulic system including crane controls, hoist drum and motor assembly must be reassembled and reinstalled as per original and in accordance with manufacturer's specifications using new CSM OEM seals and gaskets, new fluid filters and new bearings.
9.3.59 L'entrepreneur doit fournir et appliquer du ruban adhésif anticorrosion sur tous les raccords de boyaux.	9.3.60 The Contractor must supply and apply an anticorrosion tape on all hose connectors.
9.3.61 Suite au remontage, le système hydraulique doit être nettoyé de tous contaminants à une qualité de code 20/18/15 de la norme ISO 4406.	9.3.62 Following reassembly, the complete hydraulic system must be thoroughly cleaned of all contaminants to ISO 4406 contamination code 20/18/15.
9.3.63 Les filtres BFE neufs doivent être installés au système hydraulique suite au processus de nettoyage et le système hydraulique doit être rempli de fluide hydraulique de type et au niveau opérationnel conforme aux spécifications du fabricant	9.3.64 Following system cleaning, new CSM system filters must be installed and the hydraulic system must be replenished with new CSM manufacturer's specified hydraulic fluid to manufacturer's specified operational levels ensuring that all air has been purged from the

en assurant que tout l'air est purgé du système.	system.
9.3.65 Le boîtier d'engrenage du mécanisme d'orientation doit être rempli de nouveau avec de l'huile de type et au niveau opérationnel conforme aux spécifications du fabricant.	9.3.66 The slewing gearbox must be replenished with new CSM manufacturer's specified oil to the specified operational level.
9.3.67 Avant de remettre la grue en service, tous les points de graissage doivent être remplis de nouveau avec de la graisse BFE neuve et aux niveaux permettant un graissage optimal tel que spécifiés par le fabricant.	9.3.68 Prior to returning the crane to service, all lubrication points must be replenished with new CSM manufacturer's specified grease to specified levels for optimum lubricating conditions.
9.3.69 Tous les circuits électriques, les composants et appareillages associés incluant le démarreur de moteur et les appareils protecteurs doivent être inspectés pour défauts et testés pour une fonctionnalité complète.	9.3.70 All crane electrical circuitry, associated components and appliances including the motor starter and all protective devices must be inspected for defects and tested for full functionality.
9.3.71 L'ensemble du moteur électrique doit être débranché, enlevé et démonté, nettoyé au « CO2 blast » et inspecté pour défauts. Tout le filage et les enroulements doivent être testés pour leur intégrité électrique et les lectures comparées aux spécifications du fabricant.	9.3.72 The electric motor assembly must be disconnected, removed and disassembled, CO2 blast cleaned and inspected for defects. All cables and windings must be tested for electrical integrity and readings compared to manufacturer's specifications.
9.3.73 Suite à l'inspection, l'ensemble du moteur électrique doit être remonté, équilibré et testé en atelier et installé conformément aux spécifications du fabricant en utilisant des roulements neufs BFE conforme aux spécifications du fabricant. Les paramètres de l'essai doivent être enregistrés et comparés aux spécifications du fabricant et les résultats soumis à l'AT.	9.3.74 Following inspection, the electric motor assembly must be reassembled, balanced, bench tested and installed in accordance with manufacturer's specifications using new CSM bearings consistent with manufacturer's specifications. Test parameters must be recorded and compared to motor manufacturer's specifications and results submitted to the TA.
9.3.75 Suite au remontage et aux essais de grue, tous les surfaces dont le revêtement actuel est endommagé ou n'est plus performant doivent être recouvertes conformément aux spécifications du fabricant du revêtement. L'entrepreneur doit soumissionner pour la réparation des revêtements de 40% (4 m ²) des surfaces et 100% (10 m ²) pour la couche finale sur toutes les surfaces.	9.3.76 Following complete reassembly and testing of the crane, all areas where the cranes existing protective coating is damaged or no longer effective, must be recoated in accordance with the coating manufacturer's specifications. The Contractor must bid on repairing 40% (4 m ²) of all existing coated surfaces and on 100% (10 m ²) for the final top coat on all existing coated surfaces.
9.3.77 Toutes les surfaces doivent être préparées conformément aux spécifications du fabricant du revêtement avant l'application du revêtement. Les revêtements utilisés doivent être des revêtements marins compatibles avec le système de peinture actuel du navire et devront être appliqués comme suit: a) Base de la grue - primaire/ finition	9.3.78 All surfaces must be prepared in accordance with the coating manufacturer's specifications prior to coating application. Coatings must be marine coatings compatible with the coating system in place and must be applied as follows: a) Crane base – epoxy primer/finish Red b) Hoist drum & hydraulic compartment –

<p>époxydique rouge</p> <p>b) Tambour de treuil et compartiment hydraulique – auto-primaire époxydique rouge</p> <p>c) Moteur électrique – auto-primaire époxydique gris</p> <p>d) Intérieure de la cabine de grue - primaire</p> <p>e) Intérieure de la cabine de grue murs et plafond - finition émail d'alkyde brillant mono-composant RAL 9003</p> <p>f) Intérieure cabine plancher - finition émail d'alkyde brillant mono-composant rouge</p> <p>g) Surfaces extérieures de la grue - Primaire époxy bi-composant riche en zinc métallique</p> <p>h) Surfaces extérieures de la grue deuxième couche - primaire époxyde pure universel chamois</p> <p>i) Surfaces extérieures de la grue couche finale - finition acrylique polyuréthane à deux composants chamois</p>	<p>self priming epoxy Red</p> <p>c) Electric motor - self priming epoxy Grey</p> <p>d) Crane cabin interior –primer</p> <p>e) Crane cabin interior walls and ceiling – single component alkyd gloss enamel finish RAL 9003</p> <p>f) Crane cabin floor – single component alkyd gloss enamel finish Red</p> <p>g) Crane exterior surfaces primer– two component, metallic zinc rich epoxy primer</p> <p>h) Crane exterior surfaces second coat – pure epoxy universal primer Buff</p> <p>i) Crane exterior surfaces top coat – two component acrylic polyurethane finish Buff</p>
<p>9.3.79 Tous les marquages de la grue doivent être maintenus tels qu'à l'origine avec un revêtement marin compatible avec le système de peinture du navire. Toutes les surfaces de la grue et les surfaces des composantes de la grue n'étant pas revêtues au préalable ne devront pas être perturbées et devront être protégées contre les effets de préparation des surfaces et de revêtement.</p>	<p>9.3.80 All crane markings must be maintained using a coating compatible with the vessel's coating system, as per original. All crane and crane component surfaces not previously coated must remain undisturbed and protected against damage from the surface preparation and recoating process.</p>
<p>9.4 Preuve de performance/Proof of Performance</p>	
<p>9.4.1 Suite au démontage et au nettoyage de toutes les composantes de grue et avant le remontage, l'entrepreneur doit permettre au CM, à l'AT et à l'inspecteur SMTTC l'opportunité d'inspecter toutes les composantes de grue.</p>	<p>9.4.2 Following the disassembly and cleaning of all crane components and prior to reassembly, the Contractor must afford the CE, the TA and the attending TCMS surveyor the opportunity to inspect all crane components.</p>
<p>9.4.3 Suite au remontage et à l'installation de tous les ensembles des systèmes et des composantes, l'entrepreneur doit permettre au CM, à l'AT et à l'inspecteur SMTTC l'opportunité de témoigner un essai de fonctionnalité complète de la grue et tous les systèmes et appareillages associés à la grue, au frais de l'entrepreneur.</p>	<p>9.4.4 Following reassembly and installation of all crane systems and component assemblies, the Contractor must afford the CE, the TA and the attending TCMS surveyor the opportunity to witness a full functionality test of the crane and associated systems and appliances, at Contractor's expenses</p>
<p>9.4.5 Avant le retour en service de la grue, l'entrepreneur doit permettre au CM, à l'AT et à</p>	<p>9.4.6 Prior to the return to service, the Contractor must afford the CE, the TA and the</p>

l'inspecteur SMTC l'opportunité de témoigner un essai de charge, au frais de l'entrepreneur, pleinement conforme à l'annexe 4 « Essais des appareils de levage » provenant du « Règlement sur les cargaisons, la fumigation et l'outillage de chargement ».	attending TCMS surveyor the opportunity to witness a crane load test, at Contractor's expenses, in full compliance with schedule 4 "Testing of Lifting Appliances" of the "Cargo, Fumigation and Tackle Regulations".
9.5 Produits Livrables/Deliverables	
9.5.1 Avant la fin du contrat, l'entrepreneur doit soumettre au CM l'original (copie PDF à l'AT) du « Formulaire T2 Certificat d'essai et d'examen approfondi des appareils de levage » approuvé avec sceau d'une firme d'ingénierie reconnu.	9.5.2 Prior to the close of contract, the Contractor must submit to the CE an original (PDF copy to TA) completed TC "Form T2 Certificate of Test and Thorough Examination of Lifting Appliances" endorsed with seal by a recognized engineering firm.
9.5.3 Avant la fin du contrat, l'entrepreneur doit soumettre à l'AT en français et en anglais par courriel un rapport complet en format PDF non-protégé de tous les essais et de toutes les constatations incluant tous les mesures et les lectures enregistrées et les travaux effectués incluant les réparations et les pièces remplacées.	9.5.4 Prior to the close of contract, the Contractor must submit to the TA in English and in French by email a full report in unprotected PDF format of all testing and of all findings including all recorded measurements and readings and of all work performed including repairs and parts replaced.

10 DOUCHE CHEF DE MISSION/ CHEF DE MISSION SHOWER

10.1 Description/Identification

10.1.1 L'entrepreneur doit réparer le plancher de la douche situé dans la cabine du Chef de mission scientifique.

10.1.2 The Contractor must repair the shower floor located in the Science Chef de Mission's cabin.

10.2 Références/References

No. du doc./Doc. No.	Titre/Title	Emplacement/Location
6a-222-H-101	Arrangement général/General Arrangement	Ci-joint/Attached

10.3 Aspect technique/Technical	
10.3.1 L'entrepreneur doit enlever suffisamment le recouvrement de plancher et nettoyer le pont dans la région de la plaque en acier corrodée afin de bien évaluer l'ampleur des dommages de corrosion et afin d'évaluer les réparations requises au pont et aux cloisons adjacentes.	10.3.2 The Contractor must remove the shower flooring and clean the deck to the extent necessary in the area of the corroded steel plate in order to adequately assess the extent of corrosion damage and necessary repair to the surrounding washroom deck plating and adjacent bulkheads.
10.3.3 L'entrepreneur doit soumettre à l'AT dans les plus brefs délais un rapport décrivant l'ampleur des dommages et incluant une recommandation pour la réparation.	10.3.4 The Contractor must complete a full report of all findings and submit to the TA at the earliest possible convenience recommendations for repairs.
10.3.5 L'Entrepreneur doit soumissionner sur un prix d'acier 1/4" Lloyd's Grade A au "prorata" et inclure les réparations éventuelles de cloisons. Le remplacement d'une section de tôle de pont de grandeur équivalent à l'étendu (approx. 80"X36") de la salle de bain.	10.3.6 The Contractor must bid on materials and labour for replacing to original specifications the entire washroom deck plating (approx. 80"X36") prorated 1/4" Lloyd's A quality steel plate replacement including potential bulkhead repairs.
10.3.7 L'Entrepreneur doit soumissionner sur le remplacement à l'origine : a) La tôle du pont de la salle de bain (approx. 80"X36") b) Toute l'isolation et les panneaux fixés en dessous de la tôle de pont ainsi que sur les cloisons adjacentes c) Toute la plomberie de la salle de bain d) Tout le recouvrement de plancher céramique de grandeur équivalent à l'étendu (approx. 80"X36") de la salle de bain incluant la douche conformément aux spécifications du manufacturier du recouvrement de plancher.	10.3.8 The Contractor must bid on materials and labour for replacing to original specifications a) The washroom deck plating (approx. 80"X36") b) All insulation and paneling fitted to the underside of the deck plating and adjacent bulkheads c) All washroom piping d) The entire ceramic washroom deck floor covering (approx. 80"X36") including the shower to flooring manufacturer's specifications.
10.4 Preuve de performance/Proof of Performance	
10.4.1 Suite à l'enlèvement du plancher de douche et au nettoyage du pont, l'entrepreneur doit permettre au CM et à l'AT l'opportunité d'inspecter le plancher de la douche.	10.4.2 Following the removal of deck flooring and cleaning of deck plating, the Contractor must afford the CE and the TA the opportunity to inspect the shower floor.
10.4.3 Suite aux réparations des tôles de pont et de cloisons de la salle de bain et avant d'installer le recouvrement de plancher, l'entrepreneur doit permettre au CM et à l'AT l'opportunité d'inspecter les réparations de pont et de cloison.	10.4.4 Following the washroom deck plating and bulkhead repairs and prior to installing the new deck flooring, the Contractor must afford the CE and the TA the opportunity to inspect all deck and bulkhead repairs.
10.4.5 Suite aux réparations du plancher et avant de remettre la salle de bain en service, l'entrepreneur doit permettre au CM et à l'AT	10.4.6 Following the washroom flooring replacement and prior to returning the washroom to service, the Contractor must afford

l'opportunité d'inspecter les réparations et de témoigner la fonctionnalité complète des appareils de la salle de bain.	the CE and the TA the opportunity to inspect all repairs and witness a full functionality test all washroom appliances.
10.5 Produits Livrables/Deliverables	
10.5.1 Suite à l'évaluation du plancher de la douche et avant de commencer les réparations, l'entrepreneur doit soumettre à l'AT en français et en anglais par courriel un rapport complet en format PDF non-protégé de la condition du plancher de douche et de salle de bain ainsi que les recommandations pour la réparation.	10.5.2 Following the shower floor assessment and prior to the start of repairs, the Contractor must submit to the TA in English and in French by email a full report in unprotected PDF format of the shower floor and washroom deck condition and recommended repairs.
10.5.3 Avant la fin du contrat, l'entrepreneur doit soumettre à l'AT en français et en anglais par courriel un rapport complet en format PDF non-protégé de toutes les réparations effectuées ainsi que les spécifications de tous les matériels utilisés.	10.5.4 Prior to the close of contract, the Contractor must submit to the TA in English and in French by email a full report in unprotected PDF format of all repairs carried out including specifications on all materials used .

11 PONT DES OFFICIERS/OFFICERS' DECK

11.1 Description/Identification

11.1.1 L'entrepreneur doit modifier le pont des officiers extérieur à proximité des chaloupes de sauvetage bâbord et tribord conformément au dessin et au devis ci-joint.

11.1.2 The Contractor must modify the officer's deck in way of the port and starboard lifeboats in accordance with the attached drawing and specification.

11.2 Références/References

No. du doc./Doc. No.	Titre/Title	Emplacement/Location
11a-2664-17-500	Dessin « Modification du pont des Officiers - Accès aux chaloupes de sauvetage/Dwg. « Officer's Deck Modification in Way of Lifeboats »	Ci-joint/Attached
11b-NT-2664-17-DT001A-A.DOCX	Devis « Modification pont des Officiers – Accès aux chaloupes de sauvetage »/Spec. « Officer's Deck Modification in Way of Lifeboats »	Ci-joint/Attached

11.3 Aspect technique/Technical	
11.3.1 Tous les travaux de cette section doivent être effectués conformément aux documents de références de cette section à moins d'indication contraire.	11.3.2 All work in this section must be carried out in accordance with the reference documents of this section unless otherwise stated.
11.3.3 Les documents de cette section ont été rédigés en utilisant uniquement les dessins archivés du navire sans la possibilité d'une vérification à bord de la structure actuel à cause de l'indisponibilité du navire.	11.3.4 Reference documents have been generated using the vessel's archived drawings only without the possibility of an onsite visit and verification of the as fitted structure due to vessel programming.
11.3.5 Toutes incohérences entre les documents de référencés et la structure actuelle doivent être rapportés à l'AT dans les plus brefs délais pour mesures correctives.	11.3.6 All inconsistencies between the referenced documents and the as fitted structure must be brought to the TA's attention without delay for corrective action.
11.3.7 Le MarineCoat ou un revêtement 100% à base d'eau polymère acrylique équivalent au MarineCoat de Astek Composites Inc. Doit être appliqué conformément aux spécifications du manufacturier Astek Composites prévalant la spécification NT-2664-17-DT001A-A.DOCX où les incohérences existent. Le revêtement des utilisé doit être conforme au règlement 246 sur la SST au milieu maritime et doit avoir un minimum de 3 ans de preuve de performance pour la protection contre la corrosion sur les ponts extérieurs de navires.	11.3.8 MarineCoat or a water based 100% acrylic polymer coating equivalent to Astek Composites Inc. MarineCoat protective coating must be applied in accordance with the manufacturer's specifications which take precedence over the specification NT-2664-17-DT001A-A.DOCX where inconsistencies exist. The coating to be used must be compliant with regulation 246 of the Maritime OHS regulations and must have a minimum of three years proven performance for corrosion protection on ships' exterior decks.
11.4 Preuve de performance/Proof of Performance	
11.4.1 Suite aux travaux structuraux et avant l'application du revêtement protecteur, l'entrepreneur doit permettre au CM, à l'AT et à l'inspecteur SMTC l'opportunité d'inspecté tous les travaux structuraux.	11.4.2 Following all structural work and prior to applying the protective coating, the Contractor must afford the CE, the TA and the attending TCMS surveyor the opportunity to inspect all structural work.
11.4.3 Suite à l'application de tous les revêtements protecteurs, l'entrepreneur doit permettre au CM et à l'AT l'opportunité d'inspecté tous les travaux de cette section.	11.4.4 Following the application of all protective coatings, the Contractor must afford the CE and the TA the opportunity to inspect all the work of this section.
11.5 Produits Livrables/Deliverables	
11.5.1 Avant la fin du contrat, l'entrepreneur doit soumettre à l'AT une copie du dessin en référence indiquant en rouge tous les changements effectués.	11.5.2 Prior to the close of contract, the Contractor must submit to the TA a copy of the referenced drawing redlining all changes made.
11.5.3 Avant la fin du contrat, l'entrepreneur doit soumettre à l'AT en français et en anglais	11.5.4 Prior to the close of contract, the Contractor must submit to the TA in English and

par courriel un rapport complet en format PDF non-protégé des travaux effectuées incluant les modifications aux plans 11a-2664-17-500, les paramètres environnementaux existant pendant les travaux à chaud ainsi que pendant le processus de revêtement.	in French by email a full report in unprotected PDF format of work carried out including changes made to drawing 11a-2664-17-500 and environmental parameters recorded during hot work and the coating application processes.
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12 INCINÉRATEUR/INCINERATOR

12.1 Description/Identification

12.1.1 L'entrepreneur doit remplacer le réfractaire de l'incinérateur avec le nouveau réfractaire FEO BFG conformément aux spécifications du fabricant.

12.1.2 The Contractor must replace the incinerator refractory with the new OEM GSM refractory in accordance with manufacturer's specifications.

12.2 Références/References

No. du doc./Doc. No.	Titre/Title	Emplacement/Location
12a	Incinerator « DELTA » IRLA-18 Instruction Manual	Ci-joint/Attached

12.3 Aspect technique/Technical	
12.3.1 Spécifications de l'incinérateur Detagasa Marine Incinerator Type IRL-50 # de série: 0212.00IRL50.267 Capacité: 500.000 Kcal/H Date de fabrication: 23-11.2002	12.3.2 Incinerator specifications: Detagasa Marine Incinerator Type IRL-50 Serial #: 0212.00IRL50.267 Capacity: 500.000 Kcal/H Fabrication date: 23-11.2002
12.3.3 L'entrepreneur doit démonter l'incinérateur conformément aux spécifications du manufacturier comme décrits dans le manuel d'instruction ci-joint.	12.3.4 The Contractor must disassemble the incinerator in accordance with manufacturer's specifications as described on the attached instruction manual.
12.3.5 L'entrepreneur doit nettoyer et inspecter pour défauts toutes les composantes démontées. Tous les défauts doivent être enregistrés et signalés immédiatement à l'AT pour mesures correctives.	12.3.6 The Contractor must clean and inspect all disassembled components for defects. All defects must be recorded and immediately reported to the TA for corrective action.
12.3.7 L'entrepreneur doit enlever le réfractaire actuel conformément aux spécifications du manufacturier et l'éliminer conformément aux règlements environnementaux fédéraux, provinciaux et municipaux.	12.3.8 The Contractor must remove the existing incinerator refractory in accordance with manufacturer's specifications and dispose of same in accordance with federal, provincial and municipal environmental regulations.
12.3.9	12.3.10
12.3.11 L'entrepreneur doit nettoyer l'intérieur de l'incinérateur suite à l'enlèvement du réfractaire actuel et doit inspecter l'intérieur pour défauts.	12.3.12 Following the removal of the existing refractory, the Contractor must clean the incinerator internal surfaces and inspect same for defects.
12.3.13 L'entrepreneur doit installer le nouveau réfractaire FEO BFG conformément aux spécifications du manufacturier.	12.3.14 The Contractor must install the new OEM GSM refractory in accordance with manufacturer's specifications.
12.3.15 L'entrepreneur doit remonter l'incinérateur conformément aux spécifications du manufacturier comme décrits dans le manuel d'instruction ci-joint.	12.3.16 The Contractor must reassemble the incinerator in accordance with manufacturer's specifications as described in the attached instruction manual.
12.4 Preuve de performance/Proof of Performance	
12.4.1 Suite à l'enlèvement du réfractaire et le nettoyage des surfaces internes, l'entrepreneur doit permettre au CM et à l'AT l'opportunité d'inspecté les surfaces internes.	12.4.2 Following the refractory removal and incinerator interior cleaning, the Contractor must afford the CE and the TA the opportunity to inspect the incinerator internal surfaces.
12.4.3 Suite à l'installation du réfractaire neuf et avant le remontage de l'incinérateur, l'entrepreneur doit permettre au CM et à l'AT l'opportunité d'inspecté le nouveau réfractaire installé.	12.4.4 Following the new refractory installation and prior to the incinerator reassembly, the Contractor must afford the CE and the TA the opportunity to inspect the newly installed refractory.
12.4.5 Suite à l'installation au remontage de	12.4.6 Following the incinerator reassembly, the

l'incinérateur, l'entrepreneur doit permettre au CM et à l'AT l'opportunité de témoigner un essai opérationnel complet de l'incinérateur.	Contractor must afford the CE and the TA the opportunity to witness a fully functional test of the incinerator.
12.5 Produits Livrables/Deliverables	
12.5.1 Avant la fin du contrat, l'entrepreneur doit soumettre à l'AT en français et en anglais par courriel un rapport complet en format PDF non-protégé de tous les travaux effectués incluant les défauts observés ainsi que les mesures correctives recommandées.	12.5.2 Prior to the close of contract, the Contractor must submit to the TA in English and in French by email a full report in unprotected PDF format of work carried out including all observed incinerator defects and recommended repairs.

13 TUYAU CO₂ / CO₂ PIPE		
13.1 Description/Identification		
13.1.1 L'entrepreneur doit déplacer une section de tuyauterie du système fixe CO ₂ de sa position actuel à un endroit moins encombrant comme décrit dans la photo ci-joint.	13.1.2 The Contractor must redirect a section of CO ₂ fixed fire extinguishing system piping from the existing location to a lesser obstructive location as described on the attached photo.	
13.2 Références/References		
No. du doc./Doc. No.	Titre/Title	Emplacement/Location
13a	Photo déplacement tuyau CO ₂ /Photo CO ₂ pipe relocation	Ci-joint/Attached
13.3 Aspect technique/Technical		
13.3.1 L'entrepreneur doit respecter toutes les consignes de précautions énumérées dans la section 1.9 de ce devis concernant les travaux effectués sur les systèmes de lutte contre l'incendie.	13.3.2 The Contractor must comply with all applicable precautions listed in section 1.9 of this specification with regards to work carried out on the vessel's fire protection systems.	
13.3.3 Tout le matériel requis pour effectuer les travaux de cette section doit être BFG et doit respecter les exigences de la LMMC2001 pour système CO ₂ fixe d'extinction d'incendie abord.	13.3.4 All materials to complete the work of this section must be CSM and compliant with CSA2001 requirements for shipboard fixed CO ₂ fire extinguishing systems.	
13.3.5 L'entrepreneur doit déplacer une section de tuyauterie du système fixe CO ₂ comme illustré dans la photo en pièce jointe.	13.3.6 The Contractor must move the section of CO ₂ piping as illustrated on the attached photo.	
13.3.7 Toute tuyauterie affectée par les travaux de cette section doit être suffisamment supporté conformément aux exigences de la LMMC2001.	13.3.8 All new and disturbed piping must be adequately supported in compliance with CSA2001 requirements.	
13.4 Preuve de performance/Proof of Performance		
13.4.1 L'entrepreneur doit permettre au CM et à l'AT l'opportunité d'inspecté les travaux complétés de cette section.	13.4.2 The Contractor must afford the CE and the TA the opportunity to inspect all completed work of this section.	
13.4.3 Avant la fin du contrat, l'entrepreneur doit soumettre à l'AT une liste avec spécifications de tout le matériel neuf utilisé pour compléter les travaux de cette section.	13.4.4 Prior to the close of contract, the Contractor must provide to the TA a list with specifications of all new materials used to complete the work of this section.	
13.5 Produits Livrables/Deliverables		

14 TUILES DE PLAFOND (Optionnel) / CEILING TILES (Optional)		
14.1 Description/Identification		
14.1.1 L'entrepreneur doit fournir les matériaux et la main d'œuvre pour remplacer le système de plafond suspendu existant dans tous les emménagements.		14.1.2 The Contractor must supply all material and labour to replace the existing suspended ceiling system in all accommodation spaces.
14.1.3 L'entrepreneur doit remplacer tous les plafonds situés dans les emménagements du pont principal pendant la période de radoub prévue pour le 2017-10-12 au 2017-11-09.		14.1.4 The Contractor must replace all ceilings in accommodations located on the main deck during the refit period extending from 2017-10-12 to 2017-11-09.
14.1.5 L'entrepreneur doit remplacer tous les plafonds situés dans les emménagements des ponts restants pendant la période de radoub provisoirement prévue pour le 2018-04-03 au 2018-05-29.		14.1.6 The Contractor must replace all ceilings in accommodations located on all remaining decks during the spring refit period tentatively planned for the period extending from 2018-04-03 to 2018-05-29.
14.2 Références/References		
No. du doc./Doc. No.	Titre/Title	Emplacement/Location
14a	Photo et liste emménagements/ Accommodations Photo & List	Ci-joint/Attached

14.3 Aspect technique/Technical	
14.3.1 L'entrepreneur doit disposer de tous les rebuts et de remplacer toute la suspension et les tuiles dans les 47 locales indiqués sur la liste ci-joint: environ 700m ² moins environ 104 appareils lumineux fluorescent.	14.3.2 The Contractor must dispose of all garbage and replace the suspension and tiles in the 47 cabins indicated on the attached list: approximately 700m ² less approximately 104 fluorescent lighting fixtures.
14.3.3 L'entrepreneur doit fournir le service d'un électricien certifié pour remplacer les appareils lumineux existants 1' x 2' par des appareils 2' x 2' fourni par la GCC.	14.3.4 The Contractor must provide the services of a certified electrician to replace the existing 1' x 2' lighting fixtures by new 2' x 2' lighting fixtures to be supplied by the CCG.
14.3.5 Les anneaux de finition autour des têtes de gicleur seront à réutilisés.	14.3.6 The finishing rings around the sprinkler heads must be reused.
14.3.7 L'entrepreneur doit fournir un système de plafond au système de panneaux métalliques USG Panz ou équivalent et rencontrant les critères d'équivalences comme suit : a) Panneaux en de 2' par 2' en aluminium de couleur blanc perforés b) muni d'une membrane acoustique assurant un CAS de 0.60 ou supérieur c) Classé A selon la norme E84 de l'ASTM pour caractéristique de combustion de surface d) Muni d'un panneau d'isolation de 1 pouce d'épaisseur coller sur la membrane acoustique, classé marine et approuvé par TC	14.3.8 The Contractor must supply a ceiling system USG Panz Metal Panel system or equivalent and meeting the following equivalence criteria: a) 2' x 2' white perforated aluminum panels b) an acoustic backer producing 0.60 NRC or better must be integrated into the panel c) rated Class A ASTM E84 for surface-burning characteristics d) a 1" thick marine rated and TC approved insulation board must be glued to the acoustic backer
14.3.9 Les tuiles devront être vissées aux supports avec huit (8) vis. Les vis et les supports devront être blanc lustré. L'installation, les tuiles et le résultat final devra ressembler aux travaux déjà effectués sur le navire.	14.3.10 The tiles should be attached to the supports with 8 metal screws. The screws and the supports must be glossy white. The final result must resemble ceilings already updated on the ship.
14.3.11 Tous les locaux devront être remis dans le même état de propreté qu'avant le début des travaux. L'entrepreneur doit prendre toutes les mesures nécessaires afin de protéger l'ameublement, les murs et les planchers contre les dommages.	14.3.12 All spaces must be returned to the same level of cleanliness as before the work started. The contractor must take all necessary measures to protect furniture, appliances, walls, and floors from damage.
14.3.13 Les matériaux utilisés, tel l'isolant devront être approuvés par une société de classification maritime ou par le Bureau de la Sécurité des Navires.	14.3.14 All materials used must be approved by a marine classification society or by Marine Ship Safety.
14.4 Preuve de performance/Proof of Performance	
14.4.1 L'entrepreneur doit permettre au CM et	14.4.2 The Contractor must afford the CE and

à l'AT l'opportunité d'inspecté les travaux complétés de cette section.	the TA the opportunity to inspect all completed work of this section.
14.5 Produits Livrables/Deliverables	
14.5.1 Avant la fin du contrat, l'entrepreneur doit soumettre à l'AT une liste avec spécifications de tout le matériel neuf utilisé pour compléter les travaux de cette section.	14.5.2 Prior to the close of contract, the Contractor must provide to the TA a list with specifications of all new materials used to complete the work of this section.

15 ESSAIS À PRESSION PNEUMATIQUE / PNEUMATIC PRESSURE TESTING

15.1 Description/Identification

15.1.1 Suite au revêtement, l'entrepreneur doit effectuer des essais à pression pneumatique sur les réservoirs à eau potable bâbord et tribord conformément aux règlements de la LMMC2001.

15.1.2 Following all recoating work, the Contractor must pneumatically pressure test the port and starboard potable water tanks in accordance with CSA2001 regulations.

15.2 Références/References

No. du doc./Doc. No.	Titre/Title	Emplacement/Location
15a-222-H-146	Capacité des réservoirs / Tank Capacity Plan	Ci-joint / Attached

15.3 Aspect technique/Technical	
15.3.1 L'entrepreneur doit effectuer des essais à pression pneumatique sur les réservoirs à eau potable bâbord et tribord après avoir obtenu la preuve d'inspection de la SMTC pour l'inspection de chaque réservoir.	15.3.2 The Contractor shall pneumatically pressure test each potable water tank after obtaining TCMS survey credit for the inspection of each tank.
Essai de pression pneumatique / Pneumatic Test	
15.3.3 L'entrepreneur doit donner le prix détaillé des travaux suivants réalisés sur chaque réservoir : <ul style="list-style-type: none"> • essai de pression pneumatique sur chaque réservoir et chaque espace; • coût lié à la préparation de l'essai de pression pneumatique; • remise en état de fonctionner du réservoir après l'essai, y compris le retrait des brides d'obturation. 	15.3.4 The Contractor shall also provide a detailed price quote for each tank for the following work: <ul style="list-style-type: none"> • Pneumatic pressure test of each tank/space; • Cost for pneumatic test preparation; • Restoration of the tank to service condition after the test including the removal of blanking flanges.
15.3.5 L'entrepreneur doit préparer la procédure d'essai, puis la soumettre à la Sécurité maritime de Transports Canada et à l'autorité technique à l'occasion de la réunion de planification prévue dans ce devis.	15.3.6 The Contractor shall prepare and submit the test procedure for the approval of TCMS and the TA at the planning meeting required in this specification.
15.3.7 L'entrepreneur doit fournir un manomètre de colonne d'eau pour tous les essais de pression pneumatique des réservoirs et des espaces. La taille de la colonne d'eau sera déterminée en fonction du débit d'air, de façon à ne pas dépasser une pression de 1,5 psi dans les réservoirs. Le dispositif d'alimentation en air doit inclure une alimentation en air régulée munie d'une vanne d'arrêt, de deux jauges de pression, en aval du régulateur de débit, et d'une vanne d'évacuation manuelle. La vanne d'évacuation manuelle doit avoir un débit supérieur à celui de l'alimentation en air.	15.3.8 The Contractors shall supply a water column manometer for all pneumatic tank/space tests. The water column shall be sized in comparison with the air supply flow rate to prevent a tank pressure greater than 1.5 psi. The air supply arrangement shall include a regulated air supply with shut-off valve, two pressure gauges on the downstream side of the regulator and a manual vent valve. The manual vent valve shall have a flow capacity greater than the air supply.
15.4 Preuve de performance/Proof of Performance	
15.4.1 L'entrepreneur doit permettre au CM, à l'AT et à l'inspecteur SMTC l'opportunité de témoigner les essais des deux réservoirs.	15.4.2 The Contractor shall afford the CE, the TA, and the TCMS surveyor the opportunity to witness testing of both tanks.
15.4.3 Avant la fermeture définitive des deux réservoirs, l'entrepreneur doit prouver à l'AT que le réservoir est prêt à être remis en service. Il faut s'assurer que tous les dispositifs d'obturation ont été retirés, que les joints ont été remplacés, que tous les raccords ont été refaits et que les réservoirs sont propres, secs	15.4.4 Prior to final closing of both tanks the Contractor shall demonstrate to the TA that the tank is ready to be returned to service condition. This shall include the verification that all blanking devices have been removed, gaskets renewed and all connections restored, and that both tanks are clean, dry, and free of debris and

et exempts de débris et d'objets étrangers. L'entrepreneur doit procéder à la fermeture définitive des réservoirs en présence du CM ou de l'AT.	any foreign object. The Contractor shall perform the final closing of the tanks in the presence of the CE or TA.
15.5 Produits Livrables/Deliverables	
15.5.1 L'entrepreneur doit fournir un rapport sur les conclusions, les travaux et l'état final des travaux prévus, selon les formats de présentation exigés et conformément au plan d'inspection, de tests et d'essais.	15.5.2 The Contractor shall provide a report of the findings, work and final condition of the work in the required formats and according to the Inspection, Tests and Trials Plan.