

**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
Réception des soumissions - TPSGC / Bid  
Receiving - PWGSC  
1550, Avenue d'Estimauville  
1550, D'Estimauville Avenue  
Québec  
Québec  
G1J 0C7

**INVITATION TO TENDER**  
**APPEL D'OFFRES**

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

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

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

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

**Comments - Commentaires**

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

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

<b>Title - Sujet</b> P-Rad - Sping 2015 Maintenance	
<b>Solicitation No. - N° de l'invitation</b> F3019-14N740/A	<b>Date</b> 2015-02-26
<b>Client Reference No. - N° de référence du client</b> F3019-14N740	<b>GETS Ref. No. - N° de réf. de SEAG</b> PW-\$QCL-037-16357
<b>File No. - N° de dossier</b> QCL-4-37332 (037)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2015-03-20</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Heure Avancée de l'Est HAE	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Woods, Michael	<b>Buyer Id - Id de l'acheteur</b> qcl037
<b>Telephone No. - N° de téléphone</b> (418) 649-2715 ( )	<b>FAX No. - N° de FAX</b> (418) 648-2209
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> PÊCHES ET OCÉANS CANADA - GARDE CÔTIÈRE NGCC PIERRE RADISSON 101 BOUL.CHAMPLAIN QUEBEC Québec G1K7Y7 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

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

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Introduction**

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

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

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

### **1.2 Summary**

- (i) The requirement is:
- a) to carry out the scope of work regarding the Canadian Coast Guard Ships (C.C.G.S.) Pierre Radisson in accordance with the associated Technical Specifications detailed in the Requirement attached as Annex A. The ship will be at the Port of Montreal section 24 for work to be carried out.
  - b) to carry out any approved unscheduled work not covered in paragraph a) Above.
  - c) The requirement is exempt from the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), Annex 4 and the North American Free Trade Agreement (NAFTA), Chapter 10 Annex 1001.2b Paragraph 1, however, it is subject to the Agreement on Internal Trade (AIT).

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## **PART 2 - BIDDER INSTRUCTIONS**

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

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

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

The 2003 (2014-09-25) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

### **2.2 Submission of Bids**

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

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

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

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

### **2.4 Applicable Laws**

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

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

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

A bidders' Conference chaired by the Contracting Authority will be convened on board vessel CCGS Pierre Radisson at 0900, 4<sup>th</sup> March 2015. The vessel will be moored at section 97, Queen's Wharf 101, Champlain Boulevard Canadian Coast Guard Base Quebec City.

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

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

A site visit will be held immediately after the bidders' conference on 4<sup>th</sup> March 2015 for possible contractors.

A second site visit will be held on Thursday, 5<sup>th</sup> March 2015 at 09:00 for possible contractors and sub-contractors.

## **2.7 Work Period**

Work is to commence and be completed as follows:

Start of work: April 13<sup>th</sup>, 2015  
End of work: June 1<sup>st</sup>, 2015

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



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## **PART 3 - BID PREPARATION INSTRUCTIONS**

### **3.1 Bid Preparation Instructions**

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

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

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

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

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

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

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

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

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

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

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

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

Bidders must submit the certifications required under Part 5.

#### **3.1.2 SACC Manual Clause**

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

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## 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>Pricing Data Sheets</u>	
3	Letter or proof of Insurance as per article 6. 13 of Part 6	

#### 4.1.4 Other informations 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

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#### 4.1.5 Deliverables after Contract award

Élément	Description	Doit être fourni après l'attribution du Contrat, dans les
1	Insurance Requirements as per article 7.11, 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.

#### 4.3 Public Bid Opening

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

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## PART 5 - CERTIFICATIONS

### 5.1 Generality

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

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

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

### 5.2 Mandatory Certifications Required Precedent to Contract Award

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

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

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

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list ([http://www.labour.gc.ca/eng/standards\\_equity/eq/emp/fcp/list/inelig.shtml](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)) available from [Human Resources and Skills Development Canada \(HRSDC\) - Labour's](#) website.

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

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

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

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

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

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

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

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

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

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

### **6.7 Welding Certification**

At bids closing date the Bidder should submit evidence demonstrating its certification to the welding standards in accordance with the following:

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

- (a) CSA W47.1, Certification of Companies for Fusion Welding of Steel, section 2;
- (b) CSA W47.2, Certification of companies for fusion welding of aluminum;
- (c) CSA W59, Welded steel construction (metal arc welding); and
- (d) CSA W59.2, Welded aluminum construction.

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

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

### **6.9 Work Schedule and Reports (*Not used*)**

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

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

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

### **6.13 Insurances Requirements**

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

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## PART 7 - RESULTING CONTRACT CLAUSES

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

### 1. Requirement

a) to carry out the docking, maintenance and alterations of the Canadian Coast Guard Ship (C.C.G.S.) Pierre Radisson in accordance with the associated Technical Specification attached as Annex A. The ship will be at the **Port of Montreal** section 24 for work to be carried out.

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,(2014-09-25), 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).

Section 22 of 2030 is amended in Annex E Warranty.

#### 2.2 Supplemental General Conditions

1029 (2010-08-16) Ship Repairs, excluding section 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 Work Period

Work is to commence and be completed during the Work Period as follows:

Start of work: April 13<sup>th</sup>, 2015  
End of work: June 1<sup>st</sup>, 2015

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.

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## **5. Authorities**

### **5.1 Contracting Authority**

#### **The Contracting Authority for the Contract is:**

Michael Woods  
Marine Supply Specialist  
Public Works and Government Services Canada  
Québec area  
Marine division  
1550, avenue D'Estimauville, Québec, (Québec) G1J 0C4,  
Quebec, Canada  
[michael.woods@tpsgc-pwgsc.gc.ca](mailto:michael.woods@tpsgc-pwgsc.gc.ca)  
Phone: (418) 649-2715  
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.

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## **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 Method of Payment**

SACC Manual Clause	H1000C (2008-05-12)	Single Payment
SACC Manual Clause	C6000C (2011-05-16)	Limitation of Price

## **7. Invoicing Instructions**

7.1 The Contractor must submit invoices in accordance with the information required in Section 13 of 2030, (2014-09-25), General Conditions - Higher Complexity - Goods

### **7.2 Invoice**

**Invoice to be made to the name of:**

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

Write the name of the contact person;

Michelle Turcotte – Tel. 418 648-5930

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

Electronic Copy to be sent for verification to:

[michael.woods@tpsgc-pwgsc.gc.ca](mailto:michael.woods@tpsgc-pwgsc.gc.ca)

Mailing Address

Public Works and Government Services Canada  
Supply Directorate  
1550, avenue D'Estimauville  
Québec, (Québec)  
G1J 0C4  
Canada

Att.: Michael Woods

## **8. Certifications**

8.1 Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the entire contract period. If the Contractor does



not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

## **9. Applicable Laws**

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

## **10. Priority of Documents**

If there is a discrepancy between the wording 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, (2014-09-25) - Higher Complexity - Goods;
- (d) Annex A, Requirement;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Insurance Requirements;
- (g) Annex D, Inspection/Quality Assurance/Quality Control;
- (h) Annex E, Warranty; and
- (i) 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 three (3) 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 (*Not used*)**

## **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.

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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:

- (e) CSA W47.1, Certification of Companies for Fusion Welding of Steel, section 2;
- (f) CSA W47.2, Certification of companies for fusion welding of aluminum;
- (g) CSA W59, Welded steel construction (metal arc welding); and
- (h) CSA W59.2, Welded aluminum construction.

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 non compliance situations, must be competent to do so on the basis of appropriate education, training, or experience.

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

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

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

## **26.1 Price Breakdown:**

The Contractor must, upon request, provide a price breakdown for all unscheduled work, by specific activities with trades, person-hours, material, subcontracts and services.

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

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

## **27. Equipment/Systems: Inspection/Test (*Not used*)**

## **28. Inspection and Test Plan (*Not used*)**

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

## **30. Vessel manned Refits**

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

## **31. Pre-Refit Meeting**

A Pre-Refit meeting will be convened and chaired by the Contracting Authority at the Contractor's facility **two (2)** working days before the commencement of the work period.

## **32. Meetings**

Progress meetings, chaired by the Contracting Authority, will take place at the Contractor's facility as and when required, generally once a month. Interim meetings may also be scheduled. Contractor attendees at these meetings will, as a minimum, be its Contract (Project) Manager, Production Manager (Superintendent) and Quality Assurance Manager. Progress meetings will generally incorporate Technical meetings to be chaired by the Technical Authority.

## **33. Outstanding Work and Acceptance**

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

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

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

#### **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

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

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

4. The Parties agree that nothing herein is intended to limit any insurable interest of the Contractor nor to limit the amounts otherwise recoverable under any insurance policy. The Parties agree that to the extent that the insurance coverage required to be maintained by the Contractor under this Contract or any additional insurance coverage maintained by the Contractor, whichever is greater, is more than the limitations of liability described in sub article (2), the limitations provided herein are increased accordingly and the Contractor shall be liable for the higher amount to the full extent of the insurance proceeds recovered.

5. If, at any time, the total cumulative liability of the Contractor for losses or damage suffered by Canada caused by the Contractor's performance of or failure to perform the Contract, excluding liability described under subsection 2(a), (b), (c) and (d) exceeds \$40 million, either Party may terminate the Contract by giving notice in writing to the other Party and neither Party will make any claim against the other for damages, costs, expected profits or any other such loss arising out of the termination. However, no such termination or expiry of the 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 subarticles (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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F3019-14N740/A  
Client Ref No. – N° de réf. du client  
F3019-14N740

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCL-4-37332

Buyer ID – id de l'acheteur  
qcl 037

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**ANNEX A**

**Requirement**

**See electronic Annex.**

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**ANNEX B**

**BASIS OF PAYMENT FIRM PRICE**

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

**B1 Contract Firm Price**

<b>A)</b>	<b>Known Work</b> For work as stated in Contract Clause 1a), Specified in Annex "A" for a FIRM PRICE of:	\$ _____
<b>B)</b>	<b>Applicable taxes</b>	\$ _____
<b>C)</b>	<b>Total Firm Price</b>	\$ _____

**B2 Unscheduled Work**

**Payment for Unscheduled Work:**

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

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

**B2.1:** Notwithstanding definitions or 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.



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## ANNEX C

### INSURANCE REQUIREMENTS

#### C.1 Ship Repairers' Liability Insurance

1. The Contractor must obtain Ship Repairer's Liability Insurance and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$10,000,000 per accident or occurrence and in the annual aggregate

2. The Ship Repairer's Liability insurance must include the following:

- (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.
- (b) waiver of subrogation rights: Contractor's insurer to waive all rights of subrogation against Canada as represented by the Department of Public Works and Government Services Canada and the Canadian Coast Guard for any and all loss of or damage to the vessel, however caused.
- (c) Notice of Cancellation: The Insurer will endeavor to provide the Contracting Authority thirty (30) days written notice of cancellation.
- (d) Contractual Liability: The policy must, on a blanket basis or by specific reference to the contract, extend to assumed liabilities with respect to contractual provisions.
- (e) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

#### C.2 Commercial General Liability Insurance

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$10,000,000 per accident or occurrence and in the annual aggregate

2. The Commercial General Liability Insurance policy must include the following:

- (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
- (b) Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
- (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.

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- (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.

In addition, if the Contractor decides NOT to obtain Ship Repairers' Liability Insurance. (See Article C1) then the Commercial General Liability Insurance Policy must also include the following:

- a) Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
- b) Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
- c) Amendment to the Watercraft Exclusion to extend to incidental repair operations on board watercraft.

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## ANNEX D

### INSPECTION/QUALITY ASSURANCE/QUALITY CONTROL

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

1. The Contractor must prepare an Inspection and Test Plan (ITP) comprising individual inspection and test plans for each specification item of this project, in accordance with the Quality Standard and its Quality Control Plan. The ITP must be submitted to the Inspection Authority for review and amended by the Contractor to the satisfaction of the Inspection Authority.
  - (a) Each ITP must contain all inspection points identified in the Technical Specification highlighting any mandatory points that must be witnessed by the Inspection Authority and other "hold" points imposed by the Contractor to ensure the quality of the work.
  - (b) Milestone delivery date for the ITP is given in the Contract, however individual ITPs should be forwarded for review as developed.

#### 2. Coding:

- (a) Each Inspection and Test Plan (ITP) is to be coded for identification clearly demonstrating a systematic approach similar to the following (Contractor's system should be defined in its Quality Control Plan):
  - (i) Prefixes for Inspections, Test and Trials:  
  
Prefix "1" is a Contractor inspection, i.e. 1H-10-01, 1H-10-02;  
  
prefix "2" is a Contractor post repair test, i.e. 2H-10-01; and  
  
prefix "3" is a Contractor post repair trial, i.e. 3H-10-01.
  - (b) Specification items followed by assigned sequence numbers for inspection processes within each Specification Item; and
  - (c) Cross reference to a verification document number

#### 3. Inspection and Test Plan Criteria:

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

- (a) All ITPs must be prepared by the Contractor in accordance with the above criteria, its Quality Plan, and must provide the following reference information:
  - (i) the ship's name;
  - (ii) the Specification item number;
  - (iii) equipment/system description and a statement defining the parameter which is being inspected;
  - (iv) a list of applicable documents referenced or specified in the inspection procedure;
  - (v) the inspection, test or trial requirements specified in the Technical Specification;

- (vi) the tools and equipment required to accomplish the inspection;
- (vii) the environmental conditions under which the inspections are to be conducted and the tolerances on the inspection conditions;
- (viii) a detailed step-by step procedure of how each inspection is to be performed, conformance parameters, accept/reject criteria and recording of results, deficiencies found and description of corrective action(s) required;
- (ix) name and signature of the person who prepared the plan, date prepared and amendment level; and,
- (x) names and signatures of the persons conducting and witnessing the inspection, test or trial.

4. Contractor Imposed Testing:

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

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

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

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

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

1. The Contractor on the inspection record, test or trials sheets as applicable must record the results of each inspection. The Contractor must maintain files of completed inspection records consistent with the Quality Standard and its Quality Plan for this project.
2. The Contractor's QC representative (and the FSR when required) must sign as having witnessed the inspection, test or trial on the inspection record. The Contractor must forward originals of completed inspection records, together with completed test(s) and/or trials sheets to the Inspection Authority as they are completed.
3. Unsatisfactory inspection/test/trial results, for which corrective action cannot be completed during the normal course of the inspection/test/trial, will require the Contractor to establish and record the cause

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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

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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.

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- 
- (h) The Contractor must in all respects be responsible for the conduct of all tests and trials in accordance with the requirements of the Contract.
  - (i) The Inspection Authority and the Technical Authority reserve the right to defer starting or continuing with any sea trials for any reasonable cause including but not limited to adverse weather, visibility, equipment failure or degradation, lack of qualified personnel and inadequate compliance with safety standards.

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## ANNEX E

### WARRANTY

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

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

1. At the discretion of the Minister, the Contractor will replace or make good at its own expense any finished work, excluding Government Issue incorporated therein, which becomes defective or which fails to conform to contract requirements as a result of faulty or inefficient manufacture, material or workmanship.
2. Notwithstanding prior acceptance of the finished work, and without restricting any other term of the Contract or any condition, warranty or provision implied or imposed by law, the Contractor hereby warrants that the following shall be free from all defects and shall conform with the requirements of the contract:

- (a) The painting of the underwater portion of the hull for a period of three hundred and sixty-five (365) days commencing from the date of undocking, except that the Contractor will only be liable to repair and/or replace to a value to be determined as follows:

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

- (b) All other painting Work for a period of three hundred and sixty-five (365) days commencing from the date of acceptance of the Work;

- (c) all parts and material provided by the Contractor for a period of three hundred and sixty-five (365) days commencing from the date of acceptance of such parts or material;

- (d) All other items of Work for a period of ninety (90) days commencing from the date of acceptance of the Work, except that:

- (i) the warranty on the Work related to any system or equipment not immediately placed in continuous use or service shall extend for a period of ninety (90) days from the date of acceptance of the vessel;

- ii) for all outstanding defects, deviations, and Work items listed on the Acceptance Document at Delivery, the Warranty will be ninety (90) days from the subsequent date of acceptance for each item.

3. If more than one warranty period applies, in accordance with the above, to any Work, then the warranty shall be for the longest period.
4. The Contractor agrees to pass to Canada, and exercise on behalf of Canada, all warranties on the Materials supplied or held by the Contractor which exceed the periods indicated Above.



## **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 manhours expended in correcting the defect are to be recorded and entered in Section 5 of the warranty defect claim by the Technical Authority who will forward the warranty defect claim to the PWGSC Contracting Authority for action. Defective parts of equipment are to be retained pending settlement of claim.
- (d) Defective equipment associated with potential warranty should not normally be dismantled until the contractor's representative has had the opportunity to observe the defect. The necessary work is to be undertaken through normal repair methods and costs must be segregated as a possible charge against a contractor by PWGSC action.

## **E2.6 Liability**

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

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

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

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

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

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

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## Appendix 1 of Annexe E



Public Works and Government  
Services Canada

Travaux publics et Services  
gouvernementaux Canada

### Warranty Claim Réclamation De Garantie

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

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

Contact Information – l'information de contact

\_\_\_\_\_  
Name – Nom

\_\_\_\_\_  
Tel. No. - N ° Tél

\_\_\_\_\_  
Signature – Signature

\_\_\_\_\_  
Date

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

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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**

**(NOT USED)**



## ANNEX I

### Financial Bid Presentation Sheet

#### I1 Price for Evaluation

<b>A)</b>	<b>Known Work</b> For work as stated in Part 1 Clause 2a, Specified in Annex "A" and detailed in the attached Pricing Data Sheets Appendix 1 of Annex "I", for a FIRM PRICE of:	
<b>B)</b>	<b>Unscheduled Work</b> Contractor <i>Labour Cost</i> : Estimated labour hours at a firm <i>hourly Charge-out Labour Rate</i> , including overhead and profit for evaluation purpose only: 300 person hours X \$_____ per hour for a PRICE of: <b>See Note I2.1 and I2.2 below.</b>	
<b>C)</b>	<b>EVALUATION PRICE</b> GST Excluded, [A + B + C]:  For an EVALUATION PRICE of :	

#### I2 Unscheduled Work

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

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

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

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

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

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

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### Appendix 1 of Annex I

PRICING DATA SHEETS		
Item	Description	Fixed Price
1	General remarks - Bidders can enter \$0.00 or indicate 'included' if the fees for this item are distributed in each of the items below. In case the fees are not distributed an amount must be indicated in the prix box.	\$
2	Services	
	2.a) Lift (for duration of contract)	
	- Unit price per week: _____ \$ (info)	
	- Unit price per month: _____ \$ (info)	\$
	2.b) Portable Toilets	\$
5	Production Diagram	\$
6	Perform annual inspection and maintenance of firefighting systems and equipment. - Fixed CO2 fire extinguishing system: _____ \$ - Portable fire extinguishers: _____ \$ - Fixed PYRO-CHEM PCL 300 fire extinguishing system in the galley: _____ \$ - Flight deck fire extinguishing system: _____ \$	\$
7	Perform annual maintenance and inspection of elevator and service hoist for recertification.	\$
8	Perform maintenance and annual inspection of refrigeration and air conditioning systems. - Cargo and domestic refrigeration: _____ \$ - Air conditioning systems 2, 3, 4 and 5: _____ \$	\$
9	Perform annual maintenance of the lifeboat	\$
10	Perform inspection and certification of fuel hoses.	\$
11	Perform annual maintenance of the washer and dryer.	\$
12	Insulate the ceiling and install ceiling tiles in the smoking area, room 635. Area: 5.85 m <sup>2</sup>	\$
13	Repair the galley exhaust ventilation duct.	\$
14	Connect the oven exhaust to the main galley range hood with an exhaust duct.	\$
15	Refurbish the floor in the vessel's cabins. Flooring refurbishing Price per square foot: \$_____/sq ft (info) Main deck: i. Cabin #606 (currently tiles) : _____ \$ ii. Cabin #614 (currently tiles) : _____ \$  Decks above the main deck: i. Cabin #501: _____ \$ ii. Cabin #503: _____ \$ iii. Cabin #508: _____ \$ iv. Cabin #509: _____ \$ v. Cabin #512 (currently tiles) : _____ \$ vi. Cabin #518: _____ \$	\$
16	Fabricate a stainless steel counter for dispensary #547	\$

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PRICING DATA SHEETS		
Item	Description	Fixed Price
17	Repair the wheelhouse sun visor	\$
18	Paint the aluminum barge of the CCGS Pierre Radisson	\$
19	Plug the holes next to the supports of the maple leaf on either side of the chimney.	\$
20	Repair two problems on the aft starboard crane: i. The hook continues to rise when it reaches its upper limit. ii. The spit opens on its own. iii. Supply a new spare pump: _____ \$ iv. Hourly rate for a senior hydraulic technician: _____ \$/hr (80 hours to be included in bid: _____ \$/hrs x 80 hrs = _____ \$)	\$
21	Inspect and test four safety valves installed on the SUNROD-type steam boilers.	\$
22	Carry out a five-year inspection of the Miranda davit.	\$
23	Perform the four-year inspection of the port accommodation ladder	\$
24	Service the engine room supply fan.	\$
25	Replace the hydraulic hoses of the Framo pump hydraulic unit with rigid piping.	\$
26	Redo a section of piping and replace a leaking hose on the hydraulic unit of the windlass.	\$
27	Redo the base of two sea water pressurization pumps. The existing base is corroded and cracked.	\$
<b>A) SCHEDULED WORK - TOTAL FIRM PRICING</b>		<b>\$</b>

# **CCGS Pierre Radisson Refit**

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

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## 1.0 GENERAL REMARKS

### 1.1 Identification

These general remarks describe the requirements of the Canadian Coast Guard (CCG) applicable to all the attached technical specifications.

### 1.2 Reference documents

a) Applicable documents:

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

b) Publications:

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

c) Acts and regulations:

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

### 1.3 Occupational Health and Safety

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

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

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

#### **1.4 Access to the workplace**

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

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

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

#### **1.6 Tobacco in the workplace**

The contractor must ensure compliance with the *Non-smokers' Health Act*. The contractor must ensure that each employer and any person acting on behalf of an employer ensure that

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they refrain from smoking in workplaces under the employer's control. The contractor must ensure that absolutely no person smokes on board the vessel.

### 1.7 Healthy and safe workplace

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

### 1.8 Fire protection

- a) The contractor must ensure that the isolation, removal and installation of fire detection and extinguishing systems and related components are performed by a qualified technician. When fire detection or extinguishing systems are deactivated or put out of service by the contractor throughout the duration of the contract, a qualified technician must certify that they are fully functional again. The original signed and dated certificate must be issued to the technical authority (TA) and to technical inspection before the end of the contract.
- b) The contractor must inform the technical inspection and the TA and obtain written approval before disturbing, removing, isolating, deactivating, putting out of service or locking out any element of the fire detection and extinguishing systems, including heat and smoke detectors.
- c) The contractor must provide protection against fires at all times and also while work is being performed on the vessel's fire detection and extinguishing systems. This may be performed in the manner proposed below, only after having obtained written approval from the TA:
  - i. put only one part of the system out of service at a time;

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- ii. keep the system functional by using spare parts while the work is underway;
    - iii. employ other methods accepted and approved by the TA.
  - d) The contractor must know that if all the necessary precautions are not taken during work on the vessel's fire extinguishing systems, accidental discharge of extinguishing agent may occur. The contractor must fill and certify, at its expense, the containers or systems that are depleted due to such work.

### **1.9 Damaged paint and retouching**

- a) Unless otherwise indicated, the contractor must provide and apply two coats of marine primer paint compatible with the vessel's paint system on all new metal surfaces and surfaces requiring retouching.
- b) Before applying the first coat, the contractor must prepare all new steel structures and those that require retouching in accordance with the paint manufacturer's directions.

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

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

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

- a) The contractor must schedule and coordinate all regulatory inspections and classification surveys in collaboration with the authority concerned, e.g., Transport Canada Marine Safety, Classification society, Health Canada, Environment Canada and others, on the basis of this specification.
- b) All documents produced in the context of the inspections and surveys referred to above and substantiating that they have taken place (e.g., original signed and dated certificates) must be submitted to the TA.
- c) The contractor must not substitute the TA's inspection for regulatory inspections by the TCMS or classification surveys.
- d) The contractor must give prior notice (of at least 24 hours) to the TA before the TCMS regulatory inspections or classification surveys planned so that the TA can be present for the inspection.

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

- a) The contractor must develop a testing and trial plan including at least all of the tests and trials mentioned in the specification. This plan must be submitted to the TA for review purposes one week before the start of the work period originally planned.
- b) Any data specific to the trials, measurements, calibration or readings must be recorded, dated, accompanied by the signature of the person who took the measurements, and forwarded to the technical authority and to Marine Safety as a report in hard copy and electronic format.
- c) The data recorded must be accurate to three decimal places (unless otherwise specified) and comply with the measurement system in place on the vessel.

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- d) The contractor must provide the TA with valid calibration certificates for all instruments used for the testing and trial plan to prove that the instruments have been calibrated in accordance with the manufacturer's instructions.
  - e) Hard copies of reports must be placed in standard three-ring binders, typewritten on letter-size paper and classified by specification number. Electronic copies must be in unprotected Adobe PDF format on CD-ROM. The contractor must provide three paper copies and one electronic copy of all reports.
  - f) All documents produced during the contract must be placed in a data collection then submitted to the TA at the end of the contract.
  - g) All drawings requested must be produced on ANSI format B (11 in x 17 in) paper or smaller. Three copies must be provided. Drawings must also be forwarded in DWG format (AutoCAD 2000 or more recent version), on CD-ROM, and are not to be password protected. One (1) CD-ROM must be provided.

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

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

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

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

#### **1.15 Restricted access areas**

- a) The contractor must not enter the following areas (except to perform work in accordance with the specification): cabins, offices, workshops, engineer's office, wheelhouse, control

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room, toilets, kitchen, crew stations, recreation areas or other areas where restricted access is posted.

- b) The contractor must give 24 hours prior notice to the TA when it needs to work in occupied spaces or offices. The CCG will then have sufficient time to move staff and secure the areas.

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

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

#### **1.17 Records of work in progress**

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

#### **1.18 List of confined spaces**

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

#### **1.19 Hazardous material**

- a) CCG will provide a report of the hazardous material existing onboard the vessel. It is the contractor responsibility to plan the work according to the existing hazardous material.
- b) The contractor must not use any material containing asbestos.
- c) Handling of materials containing asbestos must be performed by personnel trained and certified in the removal of material containing asbestos in accordance with the federal, provincial and municipal regulations in force as well as the Fleet Safety and Security Manual. Such certificates of disposal must demonstrate that the disposal has been performed in accordance with federal, provincial and municipal regulations in force.
- d) The contractor must not use paint containing lead.
- e) In the past, paint containing lead was used to paint CCG vessels. Consequently, some of the contractor's processes, such as grinding, welding and burning, may release the lead content of the paint. The contractor must ensure that analyses are conducted in the work areas to test for the presence of lead in the paint and that the work is performed in accordance with applicable federal and provincial regulations.

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- f) The contractor must obtain approval from Health Canada for paint applied to the surface of hulls subject to regulations of Health Canada and the Pest Management Regulatory Agency.
  - g)

#### **1.20 Material and equipment removed**

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

#### **1.21 Welding certification**

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

#### **1.22 Electrical installations**

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

#### **1.23 Refrigeration and Air Conditioning Systems**

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

#### **1.24 Tradesmen's competence**

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



**1.25 Shipboard crane**

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

**1.26 Contractor's crane**

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

**1.27 Electric power and compressed air supply**

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

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## **2.0 SERVICES**

### **2.1 Lift**

- a) The contractor must provide a monthly and weekly price to provide a telescopic lift for crew needs. The lift is to be available for the duration of the work. The lift must have a horizontal reach of at least 70 ft and a lifting height of at least 80 ft.

### **2.2 Portable toilets**

- a) The contractor shall provide and transport 6 portable toilet for a 10 days period.. The price shall include the transportation and the emptying of the toilets after two days. These toilets will be necessary when the engine room staff will be maintaining the vessel's sanitary system.
- b) The toilets are to be set forward of the vessel's gangway.
- c) The toilet shall be pumped and cleaned every 2 days.

## **3.0 LIST OF ACRONYMS**

CA	Contracting Authority (PWGSC)
CCG	Canadian Coast Guard
CLC	Canada Labour Code
CSM	Contractor Supplied Material
CSA	Canadian Standards Association
CWB	Canadian Welding Bureau
DFO	Fisheries and Oceans Canada
FSSM	Fleet Safety and Security Manual (CCG)
FSR	Field Service Representative
GSM	Government Supplied Material
GFE	Government Furnished Equipment
HC	Health Canada
IEEE	Institute of Electrical and Electronics Engineers
OL	Overall length
MSDS	Material Safety Data Sheet
OHS	Occupational Health and Safety
PWGSC	Public Works and Government Services Canada
SSMS	Safety and Security Management System
TBS	Treasury Board Secretariat of Canada
TCMS	Transport Canada Marine Safety
TA	Technical Authority – Owner's Representative (CCG)
WHMIS	Workplace Hazardous Materials Information System

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#### 4.0 GENERAL INFORMATION ABOUT THE VESSEL

Name: *CCGS Pierre Radisson*

Type: Medium Icebreaker / River

Year of construction: 1978

Shipbuilder: Burrard Dry Dock, Vancouver, BC

Length: 98.33 m

Width: 19.51 m

Draught loaded: 7.16 m

Displacement loaded: 8 090 mt

Power: 11 155 kW

Propulsion: Diesel electric

#### 5.0 PRODUCTION DIAGRAM

##### 5.1 Scope

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

##### 5.2 Technical description

- a) The Contractor shall provide three bound copies of a detailed bar chart (Gantt chart type), illustrating the planned schedule of work to refit the vessel. The chart shall show each task of the specification with its start date, duration, and planned and actual completion date. An electronic version shall also be sent to the Vessel Maintenance Manager at [alexandre.gouin@dfo-mpo.gc.ca](mailto:alexandre.gouin@dfo-mpo.gc.ca). The Contractor shall also send a copy of the production diagram to the contracting authority.
- b) Any critical work path shall be indicated, with the critical tasks that risk delaying the refit work if they do not comply with the planned work schedule. These may include problems with manpower or tasks that are unable to be carried out in parallel to other tasks.
- c) In case of work affecting the critical workflow, the Chief Engineer, Vessel Maintenance Manager and PWGSC are to be notified immediately. Every effort shall be made to avoid delaying the vessel's refit. Regular quality assurance procedures shall be applied.
- d) The bar chart will be updated each week and prior to each production meeting to illustrate actual progress of the refit and changes made to the completion date of each item. The Contractor shall include in the updates to the chart any special work requested

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on PWGSC Form 1379 by indicating the impact this additional work will have on the work schedule.

### 5.3 Proof of performance

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

### 5.4 Deliverables

The selected Contractor shall provide three hard copies of the bar chart to the vessel's Chief Engineer. An electronic copy shall also be provided to the contracting authority and the Vessel Maintenance Manager at [alexandre.gouin@dfo-mpo.gc.ca](mailto:alexandre.gouin@dfo-mpo.gc.ca).

## 6.0 FIREFIGHTING SYSTEMS AND EQUIPMENT

### 6.1 Scope

Perform annual inspection and maintenance of firefighting systems and equipment according the requirement of Transport Canada.

### 6.2 References

Drawings, manuals or pictures

- 6.0 – Inspection list
- 6.0 - 06418-20 (Firefighting Plan)

### 6.3 Technical description

#### Fixed CO<sub>2</sub> fire extinguishing system

- a) Check that all the timers, visual indicators, audible alarms and ventilation system stops are operating properly. Cylinders shall be disconnected to prevent accidental discharges. Piping shall be blown with dry air, nitrogen or another inert gas.
- b) At the beginning of each day, the Contractor shall have a sufficient number of full cylinders to blow out the piping throughout the entire inspection period so as to avoid delays.
- c) Demonstrate that all nozzles and distribution lines are clear of any obstructions. These tests may require disassembly and closure of some parts of the piping. Each system shall be restored (to the extent possible) to its original condition and proper operation once the tests have been completed, at the end of each day.
- d) Check the proper operation of all devices used on site or remotely and of the time delays and high-temperature triggers.
- e) Ensure that hoses connecting the cylinders to the distribution piping are watertight and in good condition.
- f) Check the level of all cylinders in each system.
- g) It is agreed that fire equipment will be accessible and available in the event of emergency and that adequate precautions will be taken during hot work that will be performed to complete the inspection.
- h) In all cases where a fixed extinguishing agent cylinder is found to be defective or below normal charge or where a hydrostatic test is necessary, the Contractor will be responsible

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for removing the cylinder, filling it, returning it to its original location on board and connecting it.

- i) Labels showing the name of the Contractor, the date and the initials of the person performing the inspection shall accompany each system.
- j) No fixed CO<sub>2</sub> fire extinguishing cylinder need to undergo an hydrostatic test.
- k) Four (4) boxes of CO<sub>2</sub> triggers are to be replaced with new ones. The new boxes will be supplied by the CCG.

#### **Portable fire extinguishers**

- a) The Contractor shall perform the annual inspection on all portable fire extinguishers on board according to the list provided in reference. The inspection shall be done on board the vessel. If for any reason extinguishers must be brought ashore, the Senior Ship's Officer or Chief Engineer shall be notified.
- b) Each extinguisher is to be removed from its wall support and inspected for any anomalies. Pressure gauges and the date of the last hydrostatic test are to be verified.
- c) The cartridges of all dry powder extinguishers shall be verified and weighed.
- d) Labels showing the name of the Contractor, the date and the initials of the person performing the inspection shall accompany each extinguisher.
- e) The Contractor is to repair and recharge any extinguisher found to be defective or below its normal charge and perform a hydrostatic test if needed. The Contractor will be responsible for removing the extinguishers, filling them and replacing them in their respective locations.
- f) It is agreed that fire equipment will be accessible and available in the event of emergency. Adequate protection is required when hot work needs to be performed to complete the inspection.
- g) Five (5) dry powder extinguishers shall be subject to six-year maintenance.
- h) One (1) CO<sub>2</sub> extinguisher shall be subject to a hydrostatic test.

#### **Fixed PYRO-CHEM PCL 300 fire extinguishing system in the galley**

- a) The Contractor is to perform the complete annual inspection of the fixed system in the galley.
- b) The Contractor is to check the proper operation of ventilation stops, visual indicators and fuses.
- c) The local, remote and automatic operating devices shall be verified.
- d) The condition, level and date of the last hydrostatic test of each cylinder shall be verified.
- e) The Contractor shall install a cylinder compatible with the system if it needs to remove the existing cylinder to take it to its facility. The cylinder is to be removed only if it needs to be recharged or undergo a hydrostatic test.
- f) The Contractor shall affix a new label once the inspection has been completed.

#### **Flight deck fire extinguishing system**

- a) Perform the annual inspection and maintenance of fixed fire extinguishing systems on the flight deck: FireCombat and Minuteman.
- b) The Contractor shall provide sampling containers to collect a sample of the aqueous film-forming foam (AFFF) from each system: one from the Minuteman system, one from the

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FireCombat system and one from each reserve batch indicated by the Senior Ship's Officer. Results of the analysis of each specimen shall be provided to the CCG.

c) Technical information:

- 1) Minuteman fixed system: Foam (container under nozzle)
- 2) FireCombat fixed system: Dry powder (rear container) and foam (front container)
- 3) Foam reserve inventory:
  - i. 4 containers Angus Tridol 3% (AFFF) in the helicopter workshop room.
  - ii. 1 container Ansulite 3% in the safety equipment room.
  - iii. 2 containers Angus Tridol 3% (AFFF) in the engine room.
  - iv. 15 containers Angus Tridol 3% (AFFF) in the boatswain's room.

## 6.4 Proof of performance

### Inspection

All work shall be completed to the satisfaction of the Senior Ship's Officer. The Senior Ship's Officer shall be present during inspections.

### Tests

Proper equipment operation shall be demonstrated to the Senior Ship's Officer.

### Certification

The Contractor shall provide the Senior Ship's Officer with two hard copies of inspection certificates, along with the original. The Contractor shall also send an electronic copy of certificates to the Vessel Maintenance Manager.

## 6.5 Deliverables

### Report

The Contractor shall submit a complete report explaining in detail the work done, the cause of failures (if any), the changes required and the parts replaced.

The Contractor shall submit to the Chief Engineer and to the Vessel Maintenance Manager an electronic copy of the report in PDF format.

## 7.0 ELEVATOR AND SERVICE HOIST

### 7.1 Scope

Perform annual maintenance and inspection of elevator and service hoist for recertification.

### 7.2 Reference

Drawings, manuals or pictures

- 7.0 - Pictures

Regulations

- *Canada Shipping Act* and relevant regulations

Standard

- Standard CAN/CSA-B44-M90, Section 12

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### 7.3 Technical description

#### Equipment features:

##### Elevator:

Manufacturer: Montgomery Elevator Co. Ltd.

Capacity: 600 lbs

Speed: 100 ft/min

##### Service hoist:

Manufacturer: Montgomery Elevator Co. Ltd.

Capacity: 250 lbs

Speed: 50 ft/min

- a) Provide the labour to perform the annual inspection and maintenance of the vessel's elevator and service hoist, in accordance with the directives of Section 12 of Standard CAN/CSA-B44-M90.
- b) A five-year inspection of this equipment was performed in 2013.
- c) Following the work, update the maintenance register for each piece of equipment.
- d) On the service hoist, adjust the brake in accordance with the manufacturer's standards.
- e) Check the condition of the two pieces of equipment and provide recommendations in anticipation of a future upgrade. Submit a report containing proposed recommendations with a budget price. This equipment has practically not been upgraded since construction of the vessel in 1978. We need to extend their service life by 15 years.
- f) Within three days of the inspection, the Contractor shall provide a certificate for each device attesting to its compliance with the standard and listing all the inspections specified in Section 12.

### 7.4 Proof of performance

#### Inspection

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

#### Tests

The Chief Engineer shall be present during inspections and tests.

#### Certification

The Contractor shall provide the Chief Engineer with the originals copy of the certificates at the end of work. The Contractor shall also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

### 7.5 Deliverables

#### Report

At the end of work, the Contractor shall submit a complete report explaining in detail the work done, the cause of failures (if any), the changes required and the parts replaced.

The Contractor shall also submit to the Chief Engineer and to the Vessel Maintenance Manager an electronic copy of the report in PDF format.

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## 8.0 REFRIGERATION AND AIR CONDITIONING SYSTEMS

### 8.1 Scope

Perform maintenance and annual inspection of refrigeration and air conditioning systems.

### 8.2 Reference

Drawings, manuals or pictures

- 7.0 – pictures

Regulations

- *Canada Shipping Act* and relevant regulations
- *Federal Halocarbon Regulations, 2003*
- *Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems (Environment Canada)*

### 8.3 Technical description

#### **Cargo and domestic refrigeration**

Domestic compressor model Carrier 5F60-607, cargo compressor model Carrier 5F40-607. These systems operate with R-134.

Provide the material and labour to perform the following work:

- a) Conduct a complete inspection of the systems.
- b) Replace compressor oil, and clean the oil pans and strainer. Replace gaskets. Type of oil: Emkarate RL68H
- c) Replace the desiccator filters:
  - i. Cargo: 1 Drier Core RC-4864, 1 Drier C-164 and 1 Drier C-084, supply 2 Drier C-164 and 2 spare Drier Core RC-4864.
  - ii. Domestic: 1 Drier Core RC-4864 and 5 Drier C-084
- d) Perform a refrigerant leak test. Replace the relief valves on the condensers and tanks. All piping shall be checked, including in the ceiling of the main deck corridor. Ensure that they are watertight. Ceiling tiles shall be removed carefully for the inspection. They shall be put back once the work is complete.
- e) Check and clean the evaporators and their deicing system.
- f) Check the evaporator drain and the heating cable system. Ensure that they are free flowing. Repair the insulation after this verification.
- g) Refrigerant gas, if required, shall be supplied by the Contractor and it will be process thru a 1379 form.
- h) Check all operating settings.
- i) Proceed with the compressor transfer.
- j) Proceed with the necessary adjustments.

#### **Air conditioning systems 2, 3, 4 and 5**

Compressor model Carrier 5H40-60 for units 2, 3 and 5, compressor model 5F60-607 for unit 4. These systems operate with R-22.

Provide the material and labour to perform the following work:



- a) Conduct a complete inspection of the systems.
- b) Replace the compressor oil, clean the oil pans and strainer, and replace the oil filters (C/U #2, 3 and 5). Type of oil: Type C
- c) Replace the desiccator filters. RC-4864 (2 per unit)
- d) Replace the external oil filters on units 2, 3 and 5.
- e) Perform a refrigerant leak test.
- f) Refrigerant gas, if required, shall be supplied by the Contractor using Form 1379.  
Provide a price for a 30 kg cylinder in the schedule.
- g) Do the necessary insulation and reactivation work on unit 4 (see section on work on this unit).
- h) Check all operating settings.
- i) Start the systems.
- j) Make the necessary adjustments.

#### **8.4 Proof of performance**

##### Inspection

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

##### Tests

The Chief Engineer or delegate shall be present during the tests.

##### Certification

The Contractor shall submit to the Chief Engineer an electronic copy of the certificates in PDF format, along with the original. The Contractor shall also send an electronic copy to the Vessel Maintenance Manager.

#### **8.5 Deliverables**

##### Report

The Contractor shall submit a complete report explaining in detail the work done, the cause of failures (if any), the changes required and the parts replaced.

The Contractor shall submit to the Chief Engineer and to the Vessel Maintenance Manager an electronic copy of the report in PDF format.

### **9.0 LIFEBOAT**

#### **9.1 Scope**

Perform annual maintenance of the lifeboat

#### **9.2 Reference**

Drawings, manuals or pictures

- 9.0 – pictures
- 9.0 - Radisson\_inspect(nov2014)

#### **9.3 Technical description**

Lifeboat features:

Manufacturer: Watercraft International Ltd.

Serial no.: 9213262

Size: 8.5 x 2.75 x 2.35 m

Capacity: 60 people

- a) Provide the material and labour to perform the following work on the lifeboat.
- b) Check the hull for watertightness and repair as needed. Repair the damaged Gelcoat, aft port section, which was repaired temporarily in November 2014. See photos.
- c) Disassemble roof accessories and seal them properly.
- d) Check and adjust the shaft gland.
- e) Check the shaft bearings.
- f) Seal all oil , cooling water, fuel and exhaust leaks.
- g) Conduct a thorough sea trial with the vessel's crew to demonstrate the boat's proper operation.
- h) Monitor the humidity rate throughout the boat.
- i) Engage a service provider authorized by Transport Canada to perform the inspection and certification of the lifeboat launch system. Provide the material and labour to inspect and certify the lifeboat launch system. All parts replaced shall be OEM.
  - a. Inspect protections.
  - b. Replace the diaphragm.\*
  - c. Visually inspect hooks.
  - d. Test operation of the hooks.

#### **9.4 Proof of performance**

Inspection

All work shall be completed to the satisfaction of the Senior Ship's Officer.

Certification

The Contractor shall submit to the Senior Ship's Officer an electronic copy of the hook certificates in PDF format, along with the original. The Contractor shall also send an electronic copy to the Vessel Maintenance Manager.

#### **9.5 Deliverables**

Report

The Contractor shall submit a complete report explaining in detail the work done, the cause of failures (if any), the changes required and the parts replaced on the lifeboat. The Contractor shall also submit a lifeboat launch system inspection report.

The Contractor shall submit to the Senior Ship's Officer and to the Vessel Maintenance Manager an electronic copy of the 2 reports in PDF format.

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## 10.0 FUEL TRANSFER HOSES

### 10.1 Scope

Perform inspection and certification of fuel hoses.

### 10.2 Technical description

- a) Provide all required material and labour to perform hydrostatic checks and tests on nine (9) hoses used to transfer fuel (diesel and A-1 jet fuel).
- b) Hydrocarbon transfer hoses:
  - a. Diameter: 1½"
    - i. G130601 100 feet, 150 lbs/in<sup>2</sup> R1505-A G130601 (Kerosene Jet A-1)
  - b. Diameter: 2"
    - i. 1699, 50 feet, 150 lbs/in<sup>2</sup> (black)
    - ii. 7810-7, 50 feet, 150 lbs/in<sup>2</sup> (black)
  - c. Diameter: 4"
    - i. S-143 SBQ-P331, 50 feet, 150 lbs/in<sup>2</sup>
    - ii. 7810-5, 50 feet, 150 lbs/in<sup>2</sup> (Peraflex red + grounded)
    - iii. Q2331, 50 feet, 150 lbs/in<sup>2</sup>
    - iv. Q2316, 50 feet, 150 lbs/in<sup>2</sup>
  - d. Diameter: 1"
    - i. Q2270, 100 feet, 150 lbs/in<sup>2</sup>
    - ii. Q2271, 100 feet, 150 lbs/in<sup>2</sup>

### 10.3 Proof of performance

Certificate

Provide a certificate for each hose bearing the name of the company that did the work, the certification number, and the name and signature of the technician in charge.

### 10.4 Deliverables

Report

The Contractor shall submit a complete report explaining in detail the work done, the cause of failures (if any), the changes required and the parts replaced.

The Contractor shall submit to the Chief engineer and to the Vessel Maintenance Manager an electronic copy of the report in PDF format.

## 11.0 WASHER AND DRYER

### 11.1 Scope

Perform annual maintenance of the washer and dryer.

### 11.2 Reference

Drawings, manuals or pictures

11.0 – pictures

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**11.3 Technical description**

- a) Provide the material and labour to perform routine annual maintenance on the industrial washer, Milnor model 73281, and on the industrial dryer, Huebsch model 30BE, series TT-C-174431-GM, 230 VAC, three-phase, 21 Kw. Size: 30 x 30.
- b) The work consists of checking the equipment to ensure efficient operation for the following year.
- c) All part replacements shall be approved by the vessel's Chief Engineer and negotiated as an extra on Form 1379.
- d) The sub-contractor shall be an authorized repair for Milnor

**11.4 Proof of performance**

Inspection

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

**11.5 Deliverables**

Report

The Contractor shall submit a complete report explaining in detail the work done, the cause of failures (if any), the changes required and the parts replaced.

The Contractor shall submit to the Senior Ship's Officer and to the Vessel Maintenance Manager an electronic copy of the report in PDF format.

**12.0 SMOKING AREA ACOUSTICAL INSULATION****12.1 Scope**

Insulate the ceiling and install ceiling tiles in the smoking area, room 635. Area: 5.85 m<sup>2</sup>.

**12.2 Reference**

Drawings, manuals or pictures

- 12..0 – pictures and schematics

**12.3 Technical description**

- a) Provide the material, tooling and labour to replace the acoustical insulation in the smoking area ceiling. Have a company specializing in acoustical insulation insulate the ceiling with approved materials. After installing the fasteners to support the insulation, the Contractor is to apply a coat of paint identical to that applied to the rest of the steel structure (just the metal parts). Paint will be supplied by the vessel.
- b) Provide all material, tooling and labour required to install soundproofing ceiling tiles and their support systems. This room does not have any tiles.
- c) Supply PANZ brand tiles already in standard usage on board the vessel.
- d) Square tiles 2' x 2' in white aluminum without perforations from the company CGC.
- e) Fibrex-Marine Board and Flex 8 - 8 p.c.f. insulation (128 kg/m<sup>3</sup>), 1" thick, or an equivalent approved by Transport Canada, shall be bonded to the aluminum tile.

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- f) The complete tile and its components shall be a product approved by the Transport Canada OBS. Provide certificates.
  - g) Supply a system of compatible supports in 15/16" gloss white enamelled steel. The tiles shall be screwed to the supports, with on average 8 screws per 2' x 2' tile. Screws shall be plated and painted white. Tile colour shall be gloss white. Membranes and the support system shall also be white.
  - h) Install the new tiles and supports, incorporating all accessories, such as sprinklers, loudspeakers, fire detectors, fire damper chains, valve panels and posters. The Contractor shall remove these accessories and reinstall them in the new ceiling. Ventilation grilles shall be cleaned. Loudspeaker grilles shall be cleaned and painted white.
  - i) The Contractor shall leave the premises at the end of the work in the same state of cleanliness as that in which they were found at the beginning of the work. Floors and the table shall be protected to prevent damage. The Contractor will be responsible for any damage to the vessel and its equipment. Cleaning shall be done at the end of each work day.

#### **12.4 Proof of performance**

##### **Inspection**

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

##### **Certification**

Provide certificates for the tiles.

### **13.0 GALLEY VENTILATION DUCT**

#### **13.1 Scope**

Repair the galley exhaust ventilation duct.

#### **13.2 Reference**

Drawings, manuals or pictures

- 13.0 – general docs

#### **13.3 Technical description**

- a) Provide the material, tooling and labour to repair the ventilation duct. A section about 6 inches high is rotten. This section is at the emergency generator deck level. The duct circumference is 91 in. A temporary repair is needed. This repair can be done from the inside or from the outside. The section under the fan is expected to be replaced when the vessel is modernized in 2016. Note that if the Contractor is able to replace the section of piping with minimal inconvenience to the galley, this solution may be considered.

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- b) Before beginning the work, the duct in the section facing the helicopter hangar will need to be opened to clean and degrease the duct.
  - c) Place protection inside to prevent smoke and dust from reaching the galley. Remove this protection when the work is complete.
  - d) Apply the vessel's paint system on sections affected by the work. Paint is to be supplied by the Contractor.
    - i. First coat: Interprime Red CPA 234 Red
    - ii. Second coat: Interprime White CPA 235 White
    - iii. Third coat: Interlac 665 White RAL9003
    - iv. For the deck: KQA101, Interbond 501, 5 mil thickness, colour red
  - e) A hot work permit will be required to do this work.
  - f) The galley will be operational during the work. The work can be done during the day between 1 p.m. and 3 p.m. or at night between 6 p.m. and 6 a.m. It is important to keep the ventilation operating outside these hours.

#### **13.4 Proof of performance**

Inspection

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

### **14.0 ALTO-SHAAM OVEN EXHAUST**

#### **14.1 Scope**

Connect the oven exhaust to the main galley range hood with an exhaust duct.

#### **14.2 Reference**

Drawings, manuals or pictures

- 14.0 – pictures

#### **14.3 Technical description**

- a) Provide the material, equipment and labour for the work.
- b) Exhaust is currently directed into the galley toward the ceiling tile, which is blackened.
- c) Connect the unit using a flexible tube and stainless steel pipe to the galley range hood.
- d) Everything shall be in welded stainless steel. The flexible tube shall be removable.
- e) A hole shall be made in the ceiling tile. Stainless steel trim shall be installed around the pipe.
- f) The new pipe shall be very well supported.
- g) It is important to protect galley equipment during the work.
- h) It is important to return the galley to the same state of cleanliness after each shift before returning the galley to service.

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- i) The galley will be operational during the work. The work can be done during the day between 1 p.m. and 3 p.m. or at night between 6 p.m. and 6 a.m. It is important to keep the ventilation operating outside these hours.

#### **14.4 Proof of performance**

Inspection

All of the work shall be done to the complete satisfaction of the Chief Engineer.

### **15.0 FLOOR REFURBISHMENT**

#### **15.1 Scope**

Refurbish the floor in the vessel's cabins.

#### **15.2 Technical description**

Important note: The Contractor shall propose an action plan to minimize any inconvenience to the crew and to provide good quality work. The vessel's crew will be on board throughout the period.

##### Main deck

- a) Provide material and labour to perform the work required to repair the floors in the following cabins of the main deck:
  - i. Cabin #606 (currently tiles)
  - ii. Cabin #614 (currently tiles)
- b) Remove and discard the old floor covering (tiles) and the vinyl baseboards.
- c) Correct defects in the subfloor.
- d) In tiled cabins, remove the existing tiles. Repair areas where the subcoat is damaged. Do not remove the A-60 cement layer. Next, apply FOAMGLAS slabs to the repaired areas. Apply a 1/8" to 1/4" layer of fine Magnabond (marine).
- e) Cover the floor with Armstrong Duality Premium #G6210 commercial linoleum with 10-year warranty in all cabins.
- f) Install a 4" black vinyl baseboard along the bottom of walls and furniture (kickplate) in all cabins and lounges listed in this request. May be specified at the bidders' meeting.
- g) The Contractor shall take all necessary measures to protect the furnishings, walls, ceilings and floors from damage.
- h) Waste shall be collected at the end of each work day.
- i) Return the vessel to the same state of cleanliness as before the work began.
- j) The CCG will remove and replace furniture in the affected cabins.

##### Decks upper than the main deck

- a. Provide material and labour to perform the work required to repair the floor in the following cabins and passageways of the upper deck, boat deck and navigation bridge:
  - i. Cabin #501
  - ii. Cabin #503

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- iii. Cabin #508
  - iv. Cabin #509
  - v. Cabin #512 (currently tiles)
  - vi. Cabin #518
- b. Remove and discard the old floor covering (carpet, tile or linoleum).
  - c. Correct defects in the subfloor.
  - d. Remove and scrape off 100% of the rubber carpet underlay.
  - e. Repair areas where the marine cement is damaged. The marine cement is a Neotex cement ½" thick.
  - f. Coat the entire cabin floor surface with Magnabond finishing cement.
  - g. Cover the floor with Armstrong Duality Premium #G6210 commercial linoleum with 10-year warranty in all cabins.
  - h. Lay a 4" black vinyl baseboard at the bottom of the walls and furniture (kickplate).
  - i. The Contractor shall take all necessary measures to protect the furnishings, walls, ceilings and floors from damage.
  - j. Waste shall be collected at the end of each work day.
  - k. Return the vessel to the same state of cleanliness as before the work began.
  - l. The CCG will remove and replace the furniture in the affected cabins.

### 15.3 Proof of performance

Inspection

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

## 16.0 DISPENSARY CABINET

### 16.1 Scope

Fabricate a stainless steel counter for dispensary #547. This counter will be used to install a new medical device.

### 16.2 Reference

Drawings, manuals or pictures

- 16.0 – schematics

### 16.3 Technical description

- a) Provide the material, tooling and labour to fabricate and install a 304 stainless steel counter in accordance with the designs provided by the CCG. The counter shall be installed in the dispensary (547).
- b) The designs provided by the CCG are for reference only. The Contractor shall take measurements on site and submit a design of the proposed new counter for CCG approval.
- c) The counter shall be supported by adjustable legs to fit the vessel's deck, and then enclosed by a stainless steel kickplate.
- d) The doors shall be fitted with recessed stainless steel handles.



- e) The section at an angle will be fitted with a stainless steel shelf at mid-height.

#### **16.4 Proof of performance**

Inspection

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

### **17.0 WHEELHOUSE SUN VISOR**

#### **17.1 Scope**

Repair the wheelhouse sun visor damaged in a collision with the wall of a lock.

#### **17.2 Reference**

Drawings, manuals or pictures

- 17.0 – pictures and schematics

#### **17.3 Technical description**

- a) Provide the material and labour to completely replace the starboard section of the wheelhouse sun visor. Length: 18" x 2"
- b) Before beginning the work, the Contractor shall protect the floors where employees walk. The starboard control console shall be protected. The wheelhouse windows shall be protected. This protection shall be removed upon completion of the work.
- c) Carefully remove the ceiling tiles and insulation above the affected windows. The tiles and insulation shall be reused and installed after the work.
- d) Inspect the section above the windows for cracks or deformations. If any defects or cracks are found, they will be handled as an extra.
- e) Replace the entire section of the sun visor and its supports on the starboard side between the two corners of the wheelhouse.
- f) Apply the vessel's paint system on sections affected by the work.
  - i. First coat: Interprime Red CPA 234 Red
  - ii. Second coat: Interprime White CPA 235 White
  - iii. Third coat: Interlac 665 White RAL9003

#### **17.4 Proof of performance**

Inspection

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

### **18.0 ALUMINUM WORK BARGE**

#### **18.1 Scope**

Paint the aluminum barge of the CCGS *Pierre Radisson*. It does not need to be completely repainted; the hull topsides and undersides just need to be refreshed.

#### **18.2 Reference**

Drawings, manuals or pictures

- 18.0 – Pictures

### 18.3 Technical description

- Provide labour and material to repaint the aluminum barge of the CCGS *Pierre Radisson*, Hull No. C15101QC.
- The boat markings are self-adhesive and will be supplied by the CCG. Only the two oblique white stripes are painted.
- Before beginning the work, remove the fenders on the sides and front of the barge. Replace them after the work has been completed.
- Inspect the aluminum structure; if work is required, it will be handled as an extra.
- The aluminum fenders on the sides of the barge between the hull topsides and undersides shall remain unpainted.
- Before beginning the work, all parts on the deck, including accessories, the cabin, the mast and the A-Frame, as well as the bow thruster, engine foot, zinc anodes, etc. shall be protected from dust and paint fumes. The boat's protection shall be inspected by a CCG representative before work begins. This protection shall be removed and discarded after the work.
- The boat shall be completely cleaned before delivery to the vessel. It shall be returned to the same state of cleanliness as before the work.
- The following paint is to be used for the barge:

Submerged parts (hull undersides):

1. Primer: Epoxy protection Interprotect 2000/2001
2. Antifouling: Red, Trilus II, 491-4

Parts above water (hull topsides):

1. Primer: Awlgrip #545 Grey
2. Paint:
  - i. Hull: Awlgrip, CCG Red, G7323-44G - Catalyst Awlcat #2
  - ii. Cabin and markings: White G8003Q Matterhorn

Keel (hull undersides) 18m<sup>3</sup>:

1. Remove paint by sandblasting. Ensure that the surface is clean and smooth.
2. Apply two coats of Interprotect 2000/2001 epoxy protection.
3. Identify corrections, correct locally and prepare for painting.
4. Apply two coats of antifouling paint.
  - i. Antifouling: Red, Trilus II, 491-4
5. Mask hull undersides before proceeding with hull topsides.

Exposed section (hull topsides) 26m<sup>3</sup>:

1. Remove existing paint by sandblasting. Ensure that the surface is clean and smooth.
2. Apply three coats of Awlgrip #545 Grey primer, then sand the primer.

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3. Identify corrections, correct locally and prepare for painting.
  4. Apply three coats of Awlgrip Red paint.
  5. Hull: Awlgrip, CCG Red, G7323-44G - Catalyst Awlcat #2
  6. Redo the lettering and white stripe.
  7. Brand G8003Q Matterhorn, White, three coats.
  8. Apply ¾" (19 mm) BLACK adhesive tape as demarcation at the front and back of the white mark.
  9. Apply High Solids Clear G3005Q, High Gloss.

#### **18.4 Proof of performance**

##### Inspection

All work shall be completed to the satisfaction of the Senior Ship's Officer. The Contractor shall provide the CCG with the opportunity to take thickness measurements of the coatings at the end of the work.

### **19.0 HOLES IN THE CHIMNEY**

#### **19.1 Scope**

Plug the holes next to the supports of the maple leaf on either side of the chimney. The holes have been temporarily plugged from the inside with welded flanges.

#### **19.2 Reference**

Drawings, manuals or pictures

- 19.0 – Pictures

#### **19.3 Technical description**

- a) Using a crane supplied by the Contractor, remove the port and starboard maple leafs on the chimney. Every precaution shall be taken not to damage them.
- b) Install scaffolding and/or work platforms outside and inside the chimney to do the work. Access to the interior is very constricted.
- c) Plug the holes with an insert welded on both sides (two holes on the port side and four holes on the starboard side, from what we have seen; there may be more once the maple leafs have been removed).
- d) Paint the interior and exterior. Apply the vessel's paint system on sections affected by the work.
- e) Interior and exterior painting
  - i. First coat: Interprime Red CPA 234 Red
  - ii. Second coat: Interprime White CPA 235 White
  - iii. Third coat: Interlac 665 White RAL9003
- f) Install the maple leafs and punch the setscrews.

#### **19.4 Proof of performance**

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

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## 20.0 HEPBURN CRANE

### 20.1 Scope

Repair two problems on the aft starboard crane:

- i. The hook continues to rise when it reaches its upper limit.
- ii. The spit opens on its own. It has to be compensated for with the operating levers to hold its position.

### 20.2 Reference

Drawings, manuals or pictures

- 20.0 – pictures

### 20.3 Technical description

- a) Provide material, equipment and labour to resolve the problems with the aft starboard crane. The labour shall be specialized in working with hydraulics on board vessels.
- b) After identifying the problems, submit a bid for the work to be done. This work will be handled as an extra.

### 20.4 Proof of performance

Inspection

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

Tests

Tests shall be conducted in the presence of the Chief Engineer before and after the work.

At the end of the work, a load test will be conducted. Weights will be provided by the CCG.

### 20.5 Deliverables

Report

The Contractor shall submit a complete report explaining in detail the work done, the cause of failures (if any), the changes required and the parts replaced.

The Contractor shall submit to the Senior Ship's Officer and to the Vessel Maintenance Manager an electronic copy of the report in PDF format.

Spare parts

Supply a new replacement pump identical to the existing one.

## 21.0 BOILER SAFETY VALVES

### 21.1 Scope

Inspect and test four safety valves installed on the SUNROD-type steam boilers.

### 21.2 Reference

Drawings, manuals or pictures

- 21.0 – pictures

### **21.3 Technical description**

This work is required for boiler inspection by Transport Canada.

Aalborg Marine Boilers

Type: 25.912, data sheet K.1131.1

Dimensions: 40 mm

Operating pressure: 7 bar

- a) Examine and inspect the valves. Have the parts inspected by Transport Canada and a CCG representative. If there are parts to be replaced, a bid shall be submitted and will be handled as an extra.
- b) The valves will be removed and reinstalled on the boilers by the vessel's crew. In order to keep one boiler in operation, the valves will be sent in two (2) shipments.
- c) The cost of inspection by Transport Canada shall be included in the price of the work.

### **21.4 Proof of performance**

Inspection

The parts shall be inspected by an inspector from Transport Canada Maritime Safety and by a CCG representative.

Tests

Tests shall be conducted in the presence of the Transport Canada inspector to obtain an inspection certificate for the four valves.

Certification

Submit the original Transport Canada inspection certificate for the four valves to the Chief Engineer. The Contractor shall also send an electronic copy of the certificate to the Vessel Maintenance Manager.

### **21.5 Deliverables**

Report

The Contractor shall submit a complete report explaining in detail the work done and the parts replaced.

The Contractor shall submit to the Senior Ship's Officer and to the Vessel Maintenance Manager an electronic copy of the report in PDF format.

## **22.0 MIRANDA DAVIT**

### **22.1 Scope**

Conduct the five-year inspection of the Miranda davit.

### **22.2 Reference**

Drawings, manuals or pictures

- 22.0 – Miranda davit
- 22.0 - problems valves

### 22.3 Technical description

Davit:

Manufacturer: Umoe Schat-Harding Inc. Canada; Davit type: MRT 3900; Winch type: BHY 5300, SWL 3900 kg, including the weight of the carrier

- Provide material and labour to perform the work required for inspection and certification.
- Precise measurements of all mechanical components shall be taken and noted in the final report. All parts found to be defective or too worn out shall be replaced with equivalent parts supplied by the Contractor. These parts shall be noted in the report. The costs will be negotiated separately using Form 1379.
- All electrical connections and disconnections shall be performed by a certified electrician.
- All hydraulic work shall be done by a company that specializes in hydraulics.
- Identify and dismantle all pulleys, sheaves and pins. Clean each part for inspection.
- The cable will be removed by the crew. A new cable purchased and supplied by the CCG, will be installed at the end of the work by the vessel's crew.
- Each pulley and sheave shall be sandblasted for visual inspection. Grease channels shall be cleaned on the bearings, sheaves, pulleys, etc.
- Each pin and swivel shall undergo a liquid penetrant test to detect cracks.
- Each pin, swivel and bearing shall be measured, and the dimensions recorded in the inspection report.
- The carrier wheels and their pins were replaced in the spring of 2014. They shall be carefully inspected.
- Prepare and conduct a magnetic particle inspection of the davit base. An inspection report shall be submitted. Supply and apply paint KQA101 Interbond 501 Red, 5 mil thickness, on the exposed metal.
- Sheaves shall be painted according to the davit paint code. Paint shall be supplied by the Contractor. The paint code for the davit is as follows:
  - First coat: Interprime Red CPA 234 Red
  - Second coat: Interprime White CPA 235 White
  - Third coat: Interlac 665 White RAL9003
- The oil in the gearbox shall be replaced (8.5 litres Mobil SHC 629) and in the hydraulic tank (320 litres Petro-Canada Hydrex MV 22). The compartments shall be cleaned. The Chief Engineer will conduct an inspection before the tank is closed. Oil shall be supplied by the Contractor. The old oil shall be recovered and disposed of in keeping with environmental regulations.
- The two (2) isolating valves on the hydraulic oil tank shall be replaced with valves supplied by the CCG. As the valves are slightly different, two (2) adaptors shall be manufactured to install the new valves.
- All hydraulic hoses shall be replaced with new hoses with steel adaptors. Petro-Tape shall be applied on all adaptors.
- The hydraulic control shall be replaced with a new control supplied by the CCG.
- The hydraulic circuit filter shall be replaced. The filter will be supplied by the CCG.

- r) Clean and check the davit brakes and clutch.
- s) The davit shall be properly reassembled, then greased with grease (Petro-Canada PXL2C30, Precision XL EP2) supplied by the Contractor.
- t) A second lubrication shall be done, taking care to move the components during the lubrication process.
- u) If the Contractor performs hot work, it shall obtain a hot work permit signed by the Chief Engineer every day prior to the work.

## **22.4 Proof of performance**

### **Inspection**

The components and tests shall be inspected by an inspector from Transport Canada Maritime Safety and by a CCG representative. All work shall be completed to the satisfaction of the Chief Engineer.

The Contractor will be responsible for coordinating the inspections with the various Transport Canada and CCG inspection authorities. Costs incurred for these inspections will be at the Contractor's expense and included in the contract.

### **Tests**

After all davit parts have been reinstalled, make the necessary adjustments for proper operation of the davit. The Contractor shall demonstrate proper operation of the davit to the Chief Engineer.

The Contractor shall conduct a 110% load test in the presence of the Transport Canada and CCG inspection authorities. Weights will be provided by the CCG.

### **Certification**

Provide the original T2 hoisting certificate to the Chief Engineer.

Provide the original magnetic particle inspection certificate.

The Contractor shall also send an electronic copy of the certificates to the Vessel Maintenance Manager.

## **22.5 Deliverables**

### **Report**

The Contractor shall submit to the Chief Engineer a hard copy and an electronic copy (PDF) of the inspection report. Precise measurements of all components shall be taken and noted in a final report. The report shall contain all the work done, the results of non-destructive testing and a list of the parts replaced.

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

## **23.0 PORT ACCOMMODATION LADDER**

### **23.1 Scope**

Perform the four-year inspection of the port accommodation ladder.

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**23.2 Technical description**

Model: Marine Aluminum; Type: DA10R

- a) Provide material and labour to perform the work required for inspection and certification.
- b) Precise measurements of all mechanical components shall be taken and noted in the final report. All parts found to be defective or too worn out shall be replaced with equivalent parts supplied by the Contractor. These parts shall be noted in the report. The costs will be negotiated separately using Form 1379.
- c) Using a crane supplied by the Contractor, remove the port accommodation ladder.
- d) Remove and reassemble the cable. A new cable (115' x 3/8", C/A, 304 Stainless Steel, 7 x 19, one end mechanically spliced thimble, other end free) shall be supplied and installed by the Contractor with its test certificate.
- e) All electrical connections and disconnections shall be performed by a certified electrician.
- f) Bring the ladder to the workshop for complete inspection by the inspection authorities. Repair work will be handled as an extra on Form 1379.
- g) Identify and disassemble all pulleys, sheaves and pins, then clean each part for inspection.
- h) Each pulley shall be sandblasted for visual inspection. Grease channels shall be cleaned on the bearings, pulleys, etc.
- i) Each pin and swivel shall undergo a liquid penetrant test to detect cracks. Each pin, swivel and bearing shall be measured.
- j) The ladder shall be properly reassembled, then greased with grease (Petro-Canada PXL2C30, Precision XL EP2) supplied by the Contractor.
- k) All items removed shall be reinstalled with new bolts, washers and nuts.
- l) Install the ladder using a crane supplied by the Contractor. The Contractor shall demonstrate its proper operation.
- m) A second lubrication shall be done, taking care to move the components during the lubrication process.

**23.3 Proof of performance****Inspection**

The components and tests shall be inspected by an inspector from Transport Canada Maritime Safety. All work shall be completed to the satisfaction of the Chief Engineer. The Contractor will be responsible for coordinating the inspections with the various Transport Canada inspection authorities. Costs incurred for these inspections will be at the Contractor's expense and included in the contract.

**Tests**

After all components have been reinstalled, make the necessary adjustments for proper operation of the ladder. The Contractor shall demonstrate proper operation of the ladder to the Chief Engineer. The Contractor shall conduct a 110% load test as required by the Transport Canada inspector. Weights will be provided by the CCG.

**Certification**



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Provide a Transport Canada inspection certificate for lifting equipment to the Chief Engineer.

The Contractor shall also send an electronic copy of the certificates to the Vessel Maintenance Manager.

#### **23.4 Deliverables**

Report

The Contractor shall submit to the Chief Engineer a hard copy and an electronic copy (PDF) of the inspection report. Precise measurements of all components shall be taken and noted in a final report. The report shall contain all the work done, the results of non-destructive testing and a list of the parts replaced. The Contractor shall send an electronic copy of the report to the Vessel Maintenance Manager.

### **24.0 ENGINE ROOM FAN**

#### **24.1 Scope**

Service the engine room supply fan.

#### **24.2 Reference**

Drawings, manuals or pictures

- 24.0 – pictures

#### **24.3 Technical description**

Fan specification

Type:	Tubeaxial
Size:	32 MB
Capacity:	21000/15000 ft <sup>3</sup> /min at a pressure of 1.5/1 inch.
Revolution:	1750/1180 RPM

Motor specification

Manufacturer:	Robbins & Myers
Frame:	284 T
Power:	15 HP
Revolution:	1800/1200 RPM
Current:	440 VAC, three-phase, 60 HZ

- a) Provide labour, equipment and material for the work.
- b) Electrical disconnection and connection will be done by the vessel's crew, as will removal and reinstallation of the motor.
- c) This motor with its rotor shall be sent to a specialist company to be reconditioned, disassembled, cleaned, balanced (with rotor) and reassembled with top quality SKF bearings (sealed bearings). Check the straightness of the rotor. Tests are to be performed to verify the insulation and the correct functioning of the motors. Clean the paint from the

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exterior of the motor and repaint the chassis with a top quality grey epoxy paint. A report outlining the work done and the parts replaced shall be submitted by the company.

- d) The number of the two bearings is 6311-ZZ.

#### **24.4 Proof of performance**

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

#### **24.5 Deliverables**

Report

The Contractor shall submit to the Chief Engineer a report of the work done and the parts replaced. The Contractor shall send an electronic copy of the report to the Vessel Maintenance Manager.

### **25.0 FRAMO PUMP**

#### **25.1 Scope**

Replace the hydraulic hoses of the Framo pump hydraulic unit with rigid piping.

#### **25.2 Reference**

Drawings, manuals or pictures

- 25.0 – pictures

#### **25.3 Technical description**

- Provide material and labour to replace all hydraulic hoses with rigid piping.
- The work consists of replacing three 2500 psi hoses with rigid hydraulic piping. The work is located in the bow thruster room.
- When dismantling the hoses, it is important to collect the oil that will drain out of the hoses. The Contractor will be responsible for disposing of this oil in accordance with the environmental regulations in force.
- The three hoses to be replaced are the following:
  - Between the oil cooler outlet isolation valve and the return filter (1½" in diameter) – Length 24'
  - Between the rigid piping and the oil cooler inlet valve. (1½" in diameter) – Length 8'
  - Tank return line (1" in diameter) – Length 12'
- Install a hose between the hydraulic unit and the three new pipes. Length about 2' to 3'. The cooler already has two small hoses at the inlet and outlet.
- It is important to clean the new piping before installation. The new piping shall be flushed as a cleaning purpose.
- One of the hoses goes into the sea water collector; the new pipe is to run to another location to eliminate this problem.
- Use the supports in place to properly support the piping, adding supports if required. The piping is to be very well supported. This room is subject to very high vibration.
- Every precaution shall be taken to keep this compartment in the same state of cleanliness.

#### **25.4 Proof of performance**

##### Inspection

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

##### Tests

The Contractor shall demonstrate proper operation of the hydraulic unit to the Chief Engineer.

### **26.0 WINDLASS**

#### **26.1 Scope**

Redo a section of piping and replace a leaking hose on the hydraulic unit of the windlass.

#### **26.2 Reference**

Drawings, manuals or pictures

- 26.0 – pictures

#### **26.3 Technical description**

- a) Provide material and labour to redo a small pipe and replace a slightly leaking hose on the hydraulic unit of the windlass.
- b) The piping to be replaced is currently hanging and could break at any time.
- c) Electrically and hydraulically isolate the hydraulic unit. Ensure that the chains and anchors are locked securely in their position.
- d) It is sufficient to redo the piping and run it a different way to eliminate the risk of breakage. Put in place a bolted steel protector.
- e) Replace a leaking 1¼" 3000 psi hose on the hydraulic unit.
- f) Any oil collected after dismantling shall be discarded by the Contractor and disposed of in accordance with the environmental regulations in force.
- g) Supply piping, hoses and accessories (fittings).
- h) Add oil, which will be supplied by the CCG.

#### **26.4 Proof of performance**

##### Inspection

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

##### Tests

The Contractor shall demonstrate proper operation of the hydraulic unit to the Chief Engineer. Check for leaks.

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## 27.0 SEA WATER PRESSURIZATION PUMP

### 27.1 Scope

Redo the base of two sea water pressurization pumps. The existing base is corroded and cracked.

### 27.2 Reference

Drawings, manuals or pictures

- 27.0 – pictures

### 27.3 Technical description

- a) Insulate all the valves and electrical power supply for the two pumps.
- b) Remove the two pump and motor sets.
- c) Disconnection and connection of the electric motors will be done by the vessel's crew before the beginning of work.
- d) The two motors shall be sent to a specialist company to be reconditioned, disassembled, cleaned, balanced and reassembled with top quality SKF bearings (sealed bearings). Check the straightness of the rotor. Tests are to be performed to verify the insulation and the correct functioning of the motors. Clean the paint from the exterior of the motor and repaint the chassis with a top quality grey epoxy paint. A report outlining the work done and the parts replaced shall be submitted by the company. The bearing numbers are 6208ZZ and 6206ZZ.  
Motor manufacturer: Laurence Scott & Electromotors Ltd.; Type: MSD132M;  
RPM: 1160; Volt: 440/3/60; A: 13; Conn.: Star; Rating: MCR; KW: 7.5; Insulation: B
- e) Remove the existing bases for the two modules supporting the pump/motor sets, as well as the two angle irons supporting the two pump modules.
- f) Mechanically clean the top of the vessel's structure to bare metal.
- g) Rebuild a support structure for the pump and motor sets to allow future maintenance (cleaning and painting) of the vessel's supports and structure.
- h) After the welding work but before installation of the pump/motor sets, allow the vessel's crew to paint the new bases.
- i) Install the pump and motor sets. Connect the piping.
- j) Align the two sets using modern equipment.

### 27.4 Proof of performance

Inspection

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

Tests

The Contractor shall demonstrate proper operation of the two sets to the Chief Engineer.

### 27.5 Deliverables

Report

The Contractor shall also submit a motor alignment report.