

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 1T3
Bid Fax: (902) 496-5016

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

Acquisitions
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 3C9

| | |
|--|--|
| Title - Sujet CCGS EDWARD CORNWALLIS - REFIT | |
| Solicitation No. - N° de l'invitation F5561-122027/A | Date 2012-06-07 |
| Client Reference No. - N° de référence du client F5561-12-2027 | GETS Ref. No. - N° de réf. de SEAG PW-\$HAL-403-8699 |
| File No. - N° de dossier HAL-2-69030 (403) | CCC No./N° CCC - FMS No./N° VME |
| Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2012-07-05 | |
| Time Zone Fuseau horaire Atlantic Daylight Saving Time ADT | |
| F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/> | |
| Address Enquiries to: - Adresser toutes questions à: Brow, Theresa | Buyer Id - Id de l'acheteur hal403 |
| Telephone No. - N° de téléphone (902) 496-5166 () | FAX No. - N° de FAX (902) 496-5016 |
| Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF FISHERIES AND OCEANS CCGS EDWARD CORNWALLS 1 CHALLENGER DRIVE, BIO DARTMOUTH NOVA SCOTIA B2Y 4A2 Canada | |

Instructions: See Herein

Instructions: Voir aux présentes

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

TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION

- 1.1 Introduction
- 1.2 Summary
- 1.3 Debriefing

PART 2 - BIDDER INSTRUCTIONS

- 2.1 Standard Instructions, Clauses and Conditions
- 2.2 Submission of Bids
- 2.3 Enquiries - Bid Solicitation
- 2.4 Applicable Laws
- 2.5 Bidders' Conference
- 2.6 Optional Site Visit - Vessel
- 2.7 Work Period Marine
- 2.8 Docking Facility
- 2.9 List of Proposed Subcontractors
- 2.10. Quality Plan Solicitation
- 2.11 Inspection and Test Plan
- 2.12 Vessel Refit and Docking - Cost

PART 3 - BID PREPARATION INSTRUCTIONS

- 3.1 Bid Preparation Instructions

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

- 4.1 Evaluation Procedures
- 4.2 Basis of Selection
- 4.3 Public Bid Opening

PART 5 - CERTIFICATIONS

- 5.1 Certifications Precedent to Contract Award

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

- 6.1 Security requirement
- 6.2 Financial
- 6.3 Accommodation
- 6.4 Parking
- 6.5 Material and Supply Support
- 6.6 Workers' Compensation - Letter of Good Standing
- 6.7 Welding Certification
- 6.8 Valid Labour Agreement
- 6.9 Work Schedule and Reports
- 6.10 Safety Measures For Fuel
- 6.11 ISO 9001:2008 - Quality Management Systems
- 6.12 Environmental Protection

- 6.13 Insurance Requirements
- 6.14 Tables of Deliverable Requirements

PART 7 - RESULTING CONTRACT CLAUSES

- 7.1 Statement of Work
- 7.2 Standard Clauses and Conditions
- 7.3 Security Requirement
- 7.4 Term of Contract
- 7.5 Authorities
- 7.6 Payment
- 7.7 Invoicing Instructions
- 7.8 Certifications
- 7.9 Applicable Laws
- 7.10 Priority of Documents
- 7.11 Insurance Requirements
- 7.12 Financial Security
- 7.13 Accommodation
- 7.14 Parking
- 7.15 Sub-contract and Sub-contractor List
- 7.16 Work Schedule and Reports
- 7.17 Insulation Materials - Asbestos Free
- 7.18 Loan of Equipment - Marine
- 7.19 Trade Qualifications
- 7.20 Material and Supply Support
- 7.21 ISO 9001:2008 - Quality Management Systems
- 7.22 Quality Control Plan
- 7.23 Welding Certification
- 7.24 Environmental Protection
- 7.25 Safety Measures For Fuel
- 7.26 Procedures for Design Change or Additional Work
- 7.27 Equipment/Systems: Inspection/Test
- 7.28 Inspection and Test Plan
- 7.29 Vessel Custody
- 7.30 Vessel Unmanned Refit
- 7.31 Pre-fit Meeting
- 7.32 Meetings
- 7.33 Outstanding Work and Acceptance
- 7.34 Licensing
- 7.35 Hazardous Waste
- 7.36 Government Site Regulations
- 7.37 Scrap and Waste Material
- 7.38 Stability
- 7.39 Vessel - Access by Canada
- 7.40 Title to Property
- 7.41 Workers Compensation
- 7.42 Defence Contract

LIST OF ANNEXES:

- Annex "A" Statement of Work

Solicitation No. - N° de l'invitation

F5561-122027/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

ha1403

Client Ref. No. - N° de réf. du client

F5561-12-2027

File No. - N° du dossier

HAL-2-69030

CCC No./N° CCC - FMS No/ N° VME

| | |
|-------------------------|--|
| Annex "B" | Basis of Payment |
| Annex "C" | Insurance Requirements |
| Annex "D" | Inspection/Quality Assurance/Quality Control |
| Annex "E" | Warranty |
| Annex "F" | Project Management Services |
| Annex "F" | Modifications to 1026A Supplies - Firm Price |
| Annex "G" | Project Management Services |
| Annex "H" | Financial Bid Presentation Sheet |
| Appendix 1 to Annex "H" | Pricing Data Sheet |

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 Statement of Work, the Basis of Payment and other annexes.

1.2 Summary

1. The Statement of Work is:
 - a) to carry out the alongside refit of the Canadian Coast Guard Vessel *CCGS Edward Cornwallis* in accordance with the associated Technical Specifications detailed in the Statement of Work and Project Management Services attached as Annexes "A" and "H".
 - b) to carry out any approved unscheduled work not covered in paragraph a. Above.
2. 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 Ten Annex 1001.2b Paragraph 1, however, it is subject to the Agreement on Internal Trade (AIT).
3. The proposed work period is 8 August 2012 to 14 September 2012

(Derived from - Provenant de: B4029C, 2008-05-12)

1.3 Debriefings

After contract award, bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual 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>**.

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 Standard Instructions (2012-03-02) Goods or Services, 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 three (3) 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.

(Derived from - Provenant de: A0012T, 2007-05-25)

2.4 Applicable Laws

1. Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Nova Scotia.
2. The Bidder may, at its discretion, substitute the applicable laws of a Canadian province or territory of its choice without affecting the validity of its bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of its choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidder.

(Derived from - Provenant de: A9070T, 2007-05-25)

2.5 Bidders' Conference

A bidders' conference will be held onboard the ship while docked at the Bedford Institute of Oceanography in Dartmouth, NS on 25 June 2012. The conference will begin at 1:30 PM local. The scope of the requirement outlined in the bid solicitation will be reviewed during the conference and questions will be answered. It is recommended that bidders who intend to submit a bid attend or send a representative.

Bidders are requested to communicate with the Contracting Authority before the conference to confirm attendance. Bidders should provide, in writing, to the Contracting Authority, the names of the person(s) who will be attending and a list of issues they wish to table at least two (2) working days before the scheduled conference.

Any clarifications or changes to the bid solicitation resulting from the bidders' conference will be included as an amendment to the bid solicitation. Bidders who do not attend will not be precluded from submitting a bid.

(Derived from - Provenant de: A9038T, 2006-06-16)

2.6 Optional Site Visit - Vessel

It is recommended that the Bidder or a representative of the Bidder visit the work site. Arrangements have been made for a tour of the work site. The site visit will be held in the morning of 25 June 2012, at 8:00 AM - 11:00 AM local. Bidders are requested to communicate with the Contracting Authority before the scheduled visit to confirm attendance and provide the name(s) of the person(s) who will attend. Bidders may be requested to sign an attendance form. Bidders who do not attend or send a representative will not be given an alternative appointment but they will not be precluded from submitting a bid. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

(Derived from - Provenant de: A9038T, 2006-06-16)

2.7 Work Period - Marine

1. Work must commence and be completed as follows:
Commence: 8 August 2012;
Complete: 14 September 2012.
2. By submitting a bid, the Bidder certifies that they have sufficient material and human resources allocated or available and that the above work period is adequate to both complete the known work and absorb a reasonable amount of unscheduled work.

(Derived from - Provenant de: D6007T, 2007-11-30)

2.8. NOT USED Docking Facility

2.9 List of Proposed Sub-contractors

If the bid includes the use of subcontractors, the Bidder agrees, upon written request from the Contracting Authority, to provide a list of all subcontractors including a description of the things to be purchased, a description of the work to be performed by specification section and the location of the performance of that work. The list should not include the purchase of off-the-shelf items, software and such standard articles and materials as are ordinarily produced by manufacturers in the normal course of business, or the provision of such incidental services as might ordinarily be subcontracted in performing the Work, i.e. subcontract work valued at less than \$500.00

(Derived from - Provenant de: A7035T, 2007-05-25)

2.10 Quality Plan - Solicitation

Before contract award and within five (5) working days of written notification by the Contracting Authority the successful Bidder may be required to provide an example of its Quality Plans for the specification items listed below. The Plan must be in the same format that will be used after award of contract. The Quality Plan may reference other documents. Where referenced documents do not already exist, but are required by the Quality Plan, the plan must identify them and also identify when, how and by whom they will be prepared and approved.

2.11 Inspection and Test Plan

Before contract award and within five (5) working days of written notification by the Contracting Authority the successful Bidder may be required to provide an example of its Inspection Plans.

2.12 Vessel Refit, Repair or Docking - Cost

The following costs must be included in the evaluation price:

1. **Services:** include all costs for ship services such as water, steam, electricity, etc., required for vessel maintenance for the duration of the Contract. This price must be firm and is subject to increase only if the period of the Contract is extended with the approval of the Contracting Authority.
2. Docking and Undocking include:
 - (a) all costs resulting from drydocking, wharfage, security, shoring, shifting and/or moving of the vessel within the successful Bidder's facility;
 - (b) the cost of services to tie up the vessel alongside and to cast off.

Unless specified otherwise, the vessel will be delivered by Canada to the successful Bidder's facility alongside a mutually agreed safe transfer point, afloat and upright, and the successful Bidder will do the same when the Work is completed. The cost of services to tie up the vessel alongside and to cast off must be included in the evaluation price.

3. **Field Service Representatives/Supervisory Services:** include all costs for field service representatives/supervisory services including manufacturers' representatives, engineers, etc. These services must not be an extra charge except where unscheduled work requiring these services is added to the Contract.

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

5. **Sheltering, Staging, Cranage and Transportation:** include the cost of all sheltering, staging including handrails, cranage and transportation to carry out the Work as specified. The successful Bidder will be responsible for the cost of any necessary modification of these facilities to meet applicable safety regulations.

(Derived from - Provenant de: C0414T, 2008-05-12)

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 bidders to 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; and
- (c) include the certifications as a separate section of the bid.

If bids are submitted by facsimile in accordance with 2003 Standard Instructions, Section 07(3) as modified under Part 2, Article 1, then the bid should be provided in the same three section format as for hard copies.

Section I: Management Bid

The Management Bid should be concise and should include all the certifications and other requirements as noted in Parts 5 and 6.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Financial Bid Presentation Sheet Annex "C" and the detailed Pricing Data Sheet, Appendix 1 to Annex "C".

Section III: Certification Requirements

Bidders must submit the certifications required in accordance with Part 5. If these certifications do not accompany the bid documents at the time of bid submission, they will be requested by the Contracting Authority as detailed in Part 6.

3.1.2 SACC Manual Clauses

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

3.1.3 Not Used - Financial Security

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

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, 5 & 6. Any additional information which supports the bid will be requested as required by the Contracting Authority as indicated in Part 6. Only those bids which are found to meet all the mandatory requirements and the submission of acceptable additional information within the specified time frames will be deemed responsive.

4.2 Basis of Selection

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

(Derived from - Provenant de: A0069T, 2007-05-25)

4.3 Public Bid Opening

A public bid opening will be held in 1713 Bedford Row, Halifax, N.S. at 14:00 local on 5 July 2012.

(Derived from - Provenant de: A0017T, 2007-05-25)

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications to be awarded a contract. Canada will declare a bid non-responsive if the required certifications are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify the bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or

unknowingly. Failure to comply with the certifications or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

(Derived from - Provenant de: A3015T, 2008-12-12)

5.1 Certifications Precedent to Contract Award

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

5.1.1 Federal Contractors Program - \$200,000 or more

1. The Federal Contractors Program (FCP) requires that some suppliers, including a supplier who is a member of a joint venture, bidding for federal government contracts, valued at \$200,000 or more (including all applicable taxes), make a formal commitment to implement employment equity. This is a condition precedent to contract award. If the Bidder, or, if the Bidder is a joint venture and if any member of the joint venture, is subject to the FCP, evidence of its commitment must be provided before the award of the Contract.

Suppliers who have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive government contracts over the threshold for solicitation of bids as set out in the Government Contracts Regulations. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce to less than 100 employees. Any bids from ineligible contractors, including a bid from a joint venture that has a member who is an ineligible contractor, will be declared non-responsive.

2. If the Bidder does not fall within the exceptions enumerated in 3.(a) or (b) below, or does not have a valid certificate number confirming its adherence to the FCP, the Bidder must fax (819-953-8768) a copy of the signed form LAB 1168, Certificate of Commitment to Implement Employment Equity, to the Labour Branch of HRSDC.

3. The Bidder, or, if the Bidder is a joint venture the member of the joint venture, certifies its status with the FCP, as follows:

The Bidder or the member of the joint venture

(a) () is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, or temporary employees having worked 12 weeks or more in Canada;

(b) () is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;

(c) () is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, or temporary employees having worked 12

weeks or more in Canada, but has not previously obtained a certificate number from HRSDC (having not bid on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is attached;

(d) () is subject to the FCP, and has a valid certificate number as follows: _____ (e.g. has not been declared an ineligible contractor by HRSDC.)

Further information on the FCP is available on the HRSDC Web site.

(Derived from - Provenant de: A3030T, 2010-08-16)

PART 6 - FINANCIAL, SECURITY AND OTHER REQUIREMENTS

6.1 Not Used - Security Requirement

6.2 Financial

6.2.1 Financial Capability

SACC Manual Clause A9033T Financial Statements (2007-11-30)

6.3 Not Used - Accommodation

6.4 Not Used - Parking

6.5 Material and Supply Support

Before contract award and within five (5) working days of written notification by the Contracting Authority the successful Bidder must provide details of its proposed material and supply support.

6.6 Workers' Compensation - Letter of Good Standing

It is mandatory that the Bidder has an account in good standing with the Provincial Workers Compensation Board/Commission. Before contract award and within 24 hours of written notification by the Contracting Authority the successful Bidder must submit a certificate or Letter of Good Standing from the applicable Workers Compensation Board/Commission. Failure to provide this information will render the bid non responsive.

(Derived from - Provenant de: A0285T, 2007-05-25)

6.7 Welding Certification

1. Welding must be performed by a welder certified by the Canadian Welding Bureau and in accordance with the requirements of the following Canadian Standards Association (CSA) standards:

- (a) CSA W47.1-03, Certification of Companies for Fusion Welding of Steel (Minimum Division Level 2.1); and

(b) CSA W47.2-M1987(R2003), Certification of Companies for Fusion Welding of Aluminum (Minimum Division Level 2.1).

2. Before contract award and within two (2) calendar days of the written request by the Contracting Authority, the successful Bidder must submit evidence demonstrating its or its subcontractors certification to the welding standards. In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.

6.8 Valid Labour Agreement

If the Bidder has a labour agreement, or other suitable instrument, in place with its unionized labour or workforce, it must be valid for the proposed period of any resulting contract. Before contract award and within two (2) working days of written notification by the Contracting Authority the successful Bidder must provide evidence of that agreement.

(Derived from - Provenant de: A9125T, 2007-05-25)

6.9 Work Schedule and Reports

Before contract award and within 24 hours of written notification by the Contracting Authority the successful Bidder must submit to Canada one (1) copy of its preliminary production work schedule. This schedule is to show the commencement and completion dates for the Work in the available work period, including realistic target dates for significant events. This schedule will be reviewed with the successful Bidder at the Pre-Refit Meeting.

Before contract award and within 24 hours of written notification by the Contracting Authority the successful Bidder must provide a sample output from its scheduling system including a typical progress report, a quality control inspection report and a milestone event network.

6.10. Safety Measures For Fueling and Disembarking Fuel

Fueling and disembarking fuel from Canadian government vessels must be conducted under the supervision of a responsible supervisor trained and experienced in these operations.

Before contract award and within five (5) working days of written notification by the Contracting Authority the successful Bidder must provide details of its safety measures for fueling and disembarking fuel together with the name and experience of the person in charge of this activity.

(Derived from - Provenant de: A9056T, 2008-05-12)

6.11 ISO 9001:2000 - Quality Management Systems

Before contract award and within 24 hours of written notification by the Contracting Authority the successful Bidder must provide its current ISO Registration Documentation indicating its registration to ISO 9001:2000. Documentation and procedures of bidders not registered to the ISO standards may be subject to a Quality System Evaluation (QSE) by the Inspection Authority before award of a contract.

6.12 Environmental Protection

Before contract award and within 24 hours of written notification by the Contracting Authority, the successful Bidder must submit details of its environmental emergency response plans, waste management procedures and/or formal environmental training undertaken by its employees. In addition, the successful Bidder must submit samples of its processes and procedures pertinent to the completion of the Work.

6.13 Insurance Requirements

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 "D".

If the information is not provided in the bid, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

(Derived from - Provenant de: G1007T, 2007-11-30)

6.14 Tables of Deliverable Requirements

6.14.1 Mandatory Tender Deliverable Requirements

Notwithstanding deliverable requirements specified anywhere else within this Invitation to Tender and its associated Technical Specifications, the following are the only mandatory deliverables that must be submitted with the Tender documents 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 | Invitation To Tender document part 1 page 1 completed and signed; | |
| 2 | Completed Annex "H" <u>Financial Bid presentation Sheet</u> | |
| 3 | Completed Appendix 1 to Annex "H" <u>Pricing Data Sheets</u> | |

6.14.2 Supporting Tender Deliverable Requirements

If the following information which supports the bid is not submitted with the Tender; it will be requested by the Contracting Authority, from the lowest responsive bidder and it shall be provided within 24 hours of the written request:

| Item | Description | Completed and | To be forwarded |
|------|-------------|---------------|-----------------|
|------|-------------|---------------|-----------------|

| | | Attached | if requested by the CA |
|---|---|----------|------------------------|
| 1 | Changes to Applicable Laws (if any) as per article 2.4 | | |
| 2 | Decking Facility Certificate, as per article 2.8 | Not Used | |
| 3 | Subcontractor List (if any) as per article 2.9 | | |
| 4 | Proof of good standing with Worker's Compensation Board as per article 6.6 | | |
| 5 | Proof of welding certification, as per article 6.7 | | |
| 6 | Proof of valid Labour Agreement or similar instrument covering the work period as per article 6.8 | | |
| 7 | Preliminary Work Schedule as per article 6.9 | | |
| 8 | ISO Registration Certificate or Quality Assurance Documentation, as per article 6.11 | | |
| 9 | Project Management Team Details, as per article G1.4 | | |

6.14.3 Supplementary Tender Deliverable Requirements

The following information, which supports the bid, may be requested by the Contracting Authority, from the lowest responsive bidder and it shall be provided within 5 working days of the written request:

| Item | Description | Completed and Attached | To be forwarded if requested by the CA |
|------|--|------------------------|--|
| 1 | Decking facility information and calculations, as per article 2.8 | Not Used | |
| 2 | Examples of quality and inspections plans, as per articles 2.10 and 2.11 | | |
| 3 | Financial Statements and information, as per article 6.2.2 | | |
| 4 | Details of accommodation, as per article 6.3 | Not Used | |
| 5 | Details of parking Arrangements, as per article 6.4 | Not Used | |
| 6 | Details of their Material Management Support system, as per article 6.5 | | |
| 7 | Examples of work schedules, tracking and reporting, as per article 6.9 | | |
| 8 | Safety Measures for fuel as per article 6.10 | | |
| 9 | Details of environmental emergency response plans and waste management procedures, as per article 6.12 | | |
| 10 | Details of formal environmental training undertaken by | | |

| | | | |
|----|---|--|--|
| | employees, as per article 6.12 | | |
| 11 | Either proof of insurance coverage as required by article 7.11 or the letter as per article 6.13. | | |

PART 7 - RESULTING CONTRACT CLAUSES

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

7.1 Statement of Work

The Contractor must:

- a) Carry out the maintenance and alterations of the Canadian Coast Guard Vessel CCGS *Edward Cornwallis* in accordance with the associated Technical Specifications detailed in the Statement of Work and Project Management Services attached as Annexes "A" and F".
- b) Carry out any approved unscheduled work not covered in paragraph a) above.

7.2 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>

7.2.1 General Conditions

2030 General Conditions - Higher Complexity - Goods, (2012-03-02) apply to and form part of the Contract. Section 21 of 2030 is amended in Annex "E" Warranty.

7.2.2 Supplemental General Conditions

1029, Ship Repairs, 2010-08-16, (excluding article 8) apply to and form part of the Contract.

7.3 Not Used - Security Requirement

7.4 Term of Contract

7.4.1 Work Period- Marine

1. Work must commence and be completed as follows:
Commence: 8 August 2012;

Complete: 14 September 2012..

2. The Contractor certifies that they have sufficient material and human resources allocated or available and that the above work period is adequate to both complete the known work and absorb a reasonable amount of unscheduled work.

(Derived from - Provenant de: D6007C, 2007-11-30)

7.5 Authorities

7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Theresa Brow
Supply Specialist
Public Works and Government Services Canada
Acquisitions, Marine
P.O. Box 2247, 1713 Bedford Row,
Halifax, Nova Scotia

Telephone: (902) 496-5166
Facsimile: (902) 496-5016
E-mail address: Theresa.Brow@pwgsc-tpsgc.gc.ca

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

(Derived from - Provenant de: A1024C, 2007-05-25)

7.5.2 Technical Authority

The Technical Authority for the Contract is:

Darren Kennedy
Project Officer
Fisheries and Oceans / Canadian Coast Guard

Telephone: (902) 426-7153
Facsimile: (902) 426-2330
E-mail Address: Darren.Kennedy@dfo-mpo.gc.ca

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.

(Derived from - Provenant de: A1030C, 2007-05-25)

7.5.3 Inspection Authority

The Inspection Authority for the Contract is:

To be determined

The Inspection Authority is responsible for inspection of the Work and acceptance of the finished work. The Inspection Authority will be represented on-site by an assigned On-Site Inspector and any other departmental inspectors who will from time to time be assigned in support of the designated inspector.

(Derived from - Provenant de: A1025C, 2008-05-12)

7.5.4 CONTRACTORS CONTACT:

Name:

Tele:

Fax:

Cell:

Email:

7.6 Payment

7.6.1 Basis of Payment - Firm Price or Firm Lot Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a the firm price as specified in Annex "B". Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

(Derived from - Provenant de: C0207C, 2011-05-16)

7.6.2 Method of Payment - Single Payment

Canada will pay the Contractor upon completion and delivery of the work in accordance with the payment provisions of the Contract if:

- a) an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the contract;
- b) all such documents have been verified by Canada;
- c) the work delivered has been accepted by Canada.

(Derived from - Provenant de: H1000C, 2008-05-12)

7.6.3 SACC Manual Clauses

| | | |
|--------|-----------------------------------|--------------|
| C0711C | Time Verification | (2008-05-12) |
| C6000C | Limitation of Price | (2011-05-16) |
| H4500C | Lien -Section 427 of the Bank Act | (2010-01-11) |

7.7 Invoicing Address

7.7.1 The Contractor must submit invoices in accordance with the information required in Section 13 of 2030, General Conditions - Higher Complexity - Goods, article 7.6.2 Method of Payment, and article 7.7.3 Invoicing Instructions.

7.7.2 Invoices are to be made out to:

Fisheries and Oceans
 Marine Engineering
 Maritimes Regional Headquarters Building
 Level 4
 50 Discovery Drive
 PO Box 1000
 Dartmouth, Nova Scotia
 B2Y 3Z8
 Attention: Darla MacPhee

The original invoice is to be forwarded for verification to:

Public Works and Government Services Canada
 Acquisitions, Marine
 1713 Bedford Row
 Halifax, Nova Scotia
 B3J 3C9
 Attention: ***Theresa Brow***

7.8 Certifications

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 term of the Contract. 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.

(Derived from - Provenant de: A3015C, 2008-12-12)

7.9 Applicable Laws

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

(Derived from - Provenant de: A9070C, 2007-05-25)

7.10 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) the General Conditions 2030, (2012-03-02), General Conditions - Higher Complexity- Goods
- (d) Annex "A", Statement of Work;
- (e) Annex "B", Basis of Payment;
- (f) Annex "H", Financial Bid Presentation Sheet;
- (g) Annex "C", Insurance Requirements;
- (h) Annex "D", Inspection/Quality Assurance/Quality Control;
- (j) Annex "G", Project Management Services;
- (k) Annex "E", Warranty;
- (l) the Contractor's bid

(Derived from - Provenant de: A9140C, 2007-05-25)

7.11 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 does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding 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 is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. Coverage must be placed with an Insurer licensed to carry out business in Canada. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

(Derived from - Provenant de: G1001C, 2008-05-12)

7.12 Not Used - Contract Financial Security

7.13 Not Used - Accommodation

7.14 Not Used - Parking

7.15 Sub-contracts and Sub-contractor List

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

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

(Derived from - Provenant de: A7035T, 2007-05-25)

7.16 Work Schedule and Reports

No later than three (3) Working 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.

The schedules must be revised on a pre-defined basis. (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 clause 7.26

(Derived from - Provenant de: A0011C, 2007-05-25)

7.17 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.

7.18 Loan of Equipment - Marine

The Contractor may apply for the loan of the Government special tools and test equipment particular to the subject vessel as identified in the Specifications. The provision of other equipment required for the execution of work in the Specifications is the sole responsibility of the Contractor.

Equipment loaned under this provision must be used only for work under this Contract and may be subject to demurrage charges if not returned on the date required by Canada. In addition, equipment loaned under the above provision must be returned in a like condition, subject to normal wear and tear.

A list of Government equipment that the Contractor intends to request must be submitted to the Contracting Authority within three (3) days of Contract Award to permit timely supply or for alternate arrangements to be made. The request must state the time frame for which the equipment is required.

(Derived from - Provenant de: B9028C, 2007-05-25)

7.19 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.

7.20 Not Used - Material and Supply Support

7.21 ISO 9001:2008 - Quality Management Systems

In the performance of the Work described in the Contract, the Contractor must comply with the requirements of:

ISO 9001:2008 - Quality management systems - Requirements, published by the International Organization for Standardization (ISO), current edition at date of submission of the Contractor's bid with the exclusion of the following requirement:

It is not intended that the Contractor be registered to ISO 9001; however, the Contractor's quality management system must address all requirements appropriate to the scope of the Work. Only exclusions in accordance with clause 1.2 of ISO 9001 are acceptable.

Assistance for Government Quality Assurance (GQA):

The Contractor must provide the Technical Authority with the accommodation and facilities required for the proper accomplishment of GQA and must provide any assistance required by the Technical Authority for evaluation, verification, validation, documentation or release of product.

The Technical Authority must have the right of access to any area of the Contractor's or subcontractor's facilities where any part of the Work is being performed. The Technical Authority must be afforded unrestricted opportunity to evaluate and verify Contractor conformity with quality system procedures and to validate product conformity with the requirements of the Contract. The Contractor must make available for reasonable use by the Technical Authority the equipment necessary for all validation purposes. Contractor personnel must be made available for operation of such equipment as required.

When the Technical Authority determines that GQA is required at a subcontractor's facilities, the Contractor must provide for this in the purchasing document and forward copies to the Technical Authority, together with relevant technical data as the Technical Authority may request.

The Contractor must notify the Technical Authority of non-conforming product received from a subcontractor when the product has been subject to GQA.

(Derived from D5540C, 2010-08-16)

7.22 Quality Control Plan

No later than five (5) days after the effective date of the Contract, the Contractor must submit for acceptance by the Inspection Authority a Quality Plan prepared according to the latest issue (at contract date) of ISO 10005 Quality management systems - Guidelines, for quality plans. The Quality Plan must 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 Quality Plan.

The documents referenced in the Quality Plan must be made available when requested by the Inspection Authority.

If the Quality Plan was submitted as part of the bidding process, the Contractor must review and, where appropriate, revise the submitted plan to reflect any changes in requirements or planning which may have occurred as a result of pre-contract negotiations.

Upon acceptance of the Quality Plan by the Inspection Authority, the Contractor must implement the Quality Plan. The Contractor must make appropriate amendments to the Quality Plan throughout the term of the contract to reflect current and planned quality activities. Amendments to the Quality Plan must be acceptable to the Inspection and Technical Authorities.

7.23 Welding Certification

1. The Contractor must ensure that welding is performed by a welder certified by the Canadian Welding Bureau (CWB) in accordance with the requirements of the following Canadian Standards Association (CSA) standards:
 - (a) CSA W47.1-03, Certification for Companies for Fusion Welding of Steel Structures (Minimum division level 20); and
 - (b) CSA W47.2-M1987 (R2003), Certification for Companies for Fusion Welding of Aluminum (Minimum division level 2.1).
2. In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.
3. 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 he intends to use in the performance 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.

(Derived from - Provenant de: B4075C, 2008-05-12)

7.24 Environmental Protection

The Contractor and its sub-contractors engaged in the Work on a Canadian Government 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.

7.25 Supervision of Fueling and Disembarking Fuel

The Contractor must ensure that fueling and disembarking of fuel from Canadian government vessels are conducted under the supervision of a responsible supervisor trained and experienced in these operations.

7.26 Procedures for Design Change or Additional Work

These procedures must be followed for any design change or additional work.

1. When Canada requests design change or additional work:
 - (a) The Technical Authority will provide the Contracting Authority with a description of the design change or additional work in sufficient detail to allow the Contractor to provide the following information:
 - (i) any impact of the design change or additional work on the requirement of the Contract;
 - (ii) a price breakdown of the cost (increase or decrease) associated with the implementation of the design change or the performance of the additional work using either the form PWGSC-TPSGC 1686, Quotation for Design Change or Additional Work, or the form PWGSC-TPSGC 1379, Work Arising or New Work, (NOTE: Only government employees have access to these forms) or any other form required by Canada;
 - (iii) a schedule to implement the design change or to perform the additional work and the impact on the contract delivery schedule.
 - (b) The Contracting Authority will then forward this information to the Contractor.
 - (c) The Contractor will return the completed form to the Contracting Authority for evaluation and negotiation. Once agreement has been reached, the form must be signed by all parties

in the appropriate signature blocks. This constitutes the written authorization for the Contractor
to proceed with the work, and the Contract will be amended accordingly.

2. When the Contractor requests design change or additional work:

(a) The Contractor must provide the Contracting Authority with a request for design change or additional work in sufficient detail for review by Canada.

(b) The Contracting Authority will forward the request to the Technical Authority for review.

(c) If Canada agrees that a design change or additional work is required, then the procedures detailed in paragraph 1 are to be followed.

(d) The Contracting Authority will inform the Contractor in writing if Canada determines that the design change or additional work is not required.

3. Approval

The Contractor must not proceed with any design change or additional work without the written authorization of the Contracting Authority. Any work performed without the Contracting Authority's written authorization will be considered outside the scope of the Contract and no payment will be made for such work.

(Derived from - Provenant de: B5007C, 2010-01-11)

7.27 Equipment/Systems: Inspection/Test

Refer to Annex "D" for details on equipment and systems inspections and testing requirements.

7.28 Inspection and Test Plan

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

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

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

7.29 Not Used - Vessel Custody

7.30 Vessel Manned Refits

1. The vessel will be manned during the work period and will be considered to be in commission. The vessel during that period will remain in the care or custody of Canada and under its control.

-
2. Fire fighting equipment must be readily accessible and made available by the Contractor should a fire emergency arise. The Contractor must take adequate precautions when burning or welding is carried out in compartments or other confined areas of the vessel.

(Derived from - Provenant de: A0032C, 2010-08-16)

7.31 Pre-Refit Meeting

A Pre-Refit meeting will be convened and chaired by the Contracting Authority one day prior to the start of the work period.

7.32 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's 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.

(Derived from - Provenant de: B9035C, 2008-05-12)

7.33 Outstanding Work and Acceptance

1. The Inspection Authority, in conjunction with the Contractor, will prepare a list of outstanding work items at the end of the 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 Inspection Authority on the work completion date to review and sign off the form PWGSC-TPSGC1205, Acceptance. 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 that work is completed.
2. The Contractor must complete the above form in three (3) copies, which will be distributed by the Inspection Authority as follows:
 - (a) original to the Contracting Authority;
 - (b) one copy to the Technical Authority;
 - (c) one copy to the Contractor.

(Derived from - Provenant de: B5801C, 2005-05-12)

7.34 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.

7.35 SACC Manual Clauses

Solicitation No. - N° de l'invitation

F5561-122027/A

Amd. No. - N° de la modif.

File No. - N° du dossier

HAL-2-69030

Buyer ID - Id de l'acheteur

hal403

Client Ref. No. - N° de réf. du client

F5561-12-2027

CCC No./N° CCC - FMS No/ N° VME

| | |
|--------|---|
| A0290C | Hazardous Waste - Vessels (2008-05-12) |
| A9068C | Site Regulations - Non-DND(2010-01-11) |
| A9055C | Scrap and Waste Material (2008-05-12) |
| B6100C | Stability (2008-05-12) |
| A9066C | Vessel - Access by Canada (2008-05-12) |
| A9047C | Title to Property - Vessel (2008-05-12) |
| A0285C | Workers Compensation (2007-05-25) |
| A9006C | Defence Contract (2008-05-12) |

Solicitation No. - N° de l'invitation

F5561-122027/A

Amd. No. - N° de la modif.

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HAL-2-69030

Buyer ID - Id de l'acheteur

ha1403

CCC No./N° CCC - FMS No/ N° VME

F5561-12-2027

ANNEX "A" - STATEMENT OF WORK

The entire Statement of Work is a separate electronic document entitled:

TOPSIDE REFIT SPECIFICATION: 12 – H011 - 007 - 2

ANNEX B - BASIS OF PAYMENT

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

B1 Contract Price

| | | |
|-----------|--|-------------|
| a) | Known Work For work as stated in Part 7 article 7.1, Specified in Annex "A" and detailed in the attached Pricing Data Sheets at Appendix 1 to Annex H for a FIRM PRICE of: | \$ _____ |
| b) | Cost of Financial Security As per Contract article 7.12.1 | \$ Not Used |
| c) | Subtotal | \$ _____ |
| d) | HST Estimated at (15%) of Line a) only | \$ _____ |
| e) | Total Firm Price HST Included [c + d]: For a FIRM PRICE of : | \$ _____ |

B2 Unscheduled Work

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

"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 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."

B2.1 Notwithstanding definitions or usage elsewhere in this document, or in the Contractor'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, will not be negotiated, but will be compensated for in accordance with 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 for the purposes of determining the Charge-out Labour Rate set out in clause B2.

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

B3 Overtime

No overtime work will be compensated for under the Contract unless authorized in advance and in writing by the Contracting Authority. Any request for payment must be accompanied by a copy of the overtime authorization and a report containing such details as Canada may require with respect to the overtime work performed. Compensation for authorized overtime will be calculated by taking the average hourly direct labour rate premiums, plus certified fringe benefit additives, plus profit of 7 1/2 percent on labour premium and fringe benefits. These rates will remain firm for the duration of the Contract including all amendments and are subject to audit if deemed necessary by Canada.

B4 Not Used - Daily Services Fees

ANNEX C - INSURANCE REQUIREMENTS

C1 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 Department of Fisheries and Oceans and Public Works and Government Services Canada 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.

(Derived from - Provenant de: G5001C, 2008-05-12)

C2 Commercial General Liability

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

-
- (c) Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
 - (d) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
 - (e) Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
 - (f) Employees and, if applicable, Volunteers must be included as Additional Insured.
 - (g) Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
 - (h) Notice of Cancellation: The Insurer will endeavor 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 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.
(Derived from - Provenant de: G2001C, 2005-05-12)

C3 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 \$10,000,000.00 per incident or occurrence, to an annual aggregate of \$20,000,000 for damages caused in any one year of carrying out of the Contract, each such year starting on the date of coming into force of the Contract or its anniversary, and to a total maximum liability of \$40,000,000.00. This limitation of the Contractor's liability does not apply to:

- (a) any infringement of intellectual property rights; or
- (b) any breach of warranty obligations.

Solicitation No. - N° de l'invitation

F5561-122027/A

Amd. No. - N° de la modif.

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HAL-2-69030

Buyer ID - Id de l'acheteur

ha1403

Client Ref. No. - N° de réf. du client

F5561-12-2027

CCC No./N° CCC - FMS No/ N° VME

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.

ANNEX D - INSPECTION/QUALITY ASSURANCE/QUALITY CONTROL**D1 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 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): e.g. Prefixes for Inspections, Test and Trials:
 - i. Prefix "1" is a Contractor inspection,
 - ii. Prefix "2" is a Contractor post repair test,
 - iii. Prefix "3" is a Contractor post repair trial,
 - (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 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 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.

D2 Conduct of Inspection

1. Inspections shall be conducted in accordance with the ITP and as detailed in E4.
2. The Contractor shall provide their 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 shall ensure that their own staff are provided in support of such inspection/test/trial.
3. The Contractor shall 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 shall 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 shall 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.

D3 Inspection Records and Reports

1. The Contractor on the inspection record, test or trials sheets as applicable shall record the results of each inspection. The Contractor shall maintain files of completed inspection records consistent with the Quality Standard and their Quality Plan for this project.
2. The Contractor's QC representative (and the FSR when required) shall sign as having witnessed the inspection, test or trial on the inspection record. The Contractor shall forward originals of completed inspection records, together with completed test(s) and/or trials sheets to the Inspector as they are completed.
3. Unsatisfactory inspection/test/trial results, for which corrective action cannot be completed during the normal course of the inspection/test/trial, will require the Contractor to establish and record the cause of the unsatisfactory condition to the satisfaction of the Inspector. The Crown representatives may assist in identification where appropriate.

4. Corrective action to remove cause of unsatisfactory inspections shall be submitted to the Inspector in writing by the Contractor, for approval prior to affecting such repairs and rescheduling of the unsatisfactory inspection/test/trial. Such notices shall be included in the final records passed to the Inspector.
5. The Contractor shall 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 their own risk.
6. The Contractor shall 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, shall be retained by the Contractor for three (3) years from the date of completion or termination of the Contract and shall be made available to the Inspection Authority upon request.

D4 Inspection and Trials Process

1. Drawings and Purchase Orders
 - a. Upon receipt of two (2) copies of each drawing or purchase order, the Designated Inspector will review their content against the provisions of the specification. Where discrepancies are noted, the Inspector 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 Inspector 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 Inspector to permit him to certify that the work has been performed in compliance with the provisions of the specification. The Contractor shall be responsible for notifying the Designated Inspector of when the work will be available for inspection, sufficiently in advance to permit the Designated Inspector to arrange for the appropriate inspection.
 - b. The Inspector will inspect the materials, equipment and work throughout the project against the provisions of the 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 Inspector shall 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 shall be required before the Work is inspected by the PWGSC Inspector.
 - d. The QA/QC system is a requirement, so if the documentation is presented to the Inspector prior to an inspection stating that the Work is satisfactory but the Inspector finds that the Work has not been satisfactorily inspected, the Inspector shall 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 PWGSC Inspector shall 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 Inspector shall 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 Inspector. Each report will be uniquely numbered for reference purposes, will be signed and dated by the Inspector, 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 Inspector, the Inspector will complete the Report by adding an appropriate 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 Inspector will be transferred to the Acceptance Documents prior to the Inspector's certification of such documents.

4. Tests, Trials, and Demonstrations

- a. To enable the Inspector to certify that the Work has been performed satisfactorily, in accordance with the Contract and Specifications, the Contractor shall schedule, co-ordinate, perform, and record all specified Tests, Trials and Demonstrations required by the Inspector as detailed in F4.
- b. Where the Specifications contain a specific performance requirement for any component, equipment, sub-system or system, the Contractor shall test such component, equipment, sub-system or system to the satisfaction of the Inspector, 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 shall be conducted in accordance with a logical, systematic schedule which shall ensure that all associated components and equipment are proven prior to sub-systems demonstration or testing, and that sub-systems are proven prior to system demonstration or testing.
- d. Where the Specifications do not contain specific performance requirements for any component, equipment, sub-system or system, the Contractor shall demonstrate such component, equipment, sub-system or system to the satisfaction of the Inspector.
- e. The Contractor shall submit their Inspection and Test Plan as detailed in F2.
- f. The Contractor shall co-ordinate each test, trial and demonstration with all interested parties, including the Inspector; Contracting and Technical Authorities; regulatory authorities; Classification Society; Sub-contractors; etc. The Contractor shall provide the Inspector and other Crown Authorities with a minimum of five working days notice of each scheduled test, trial, or demonstration.

- g. The Contractor shall keep written records of all tests, trials, and demonstrations conducted as detailed in F4.
- h. The Contractor shall in all respects be responsible for the conduct of all tests and trials in accordance with the requirements of the Contract.
- i. The Inspection Authority and the Technical Authority reserve the right to defer starting or continuing with any sea trials for any reasonable cause including but not limited to adverse weather, visibility, equipment failure or degradation, lack of qualified personnel and inadequate compliance with safety standards

ANNEX E - WARRANTY**E1 2030 (2012-03-02) General Conditions - Higher Complexity - Goods are hereby amended as follows:**

Delete Section 2030 21 (2012-03-02) Warranty and Insert the following:

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

E2 Warranty Procedures**1. Scope**

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

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."

3. Warranty Conditions

-
- a. 2030 General Conditions - 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 acceptance for the specified areas of 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.

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.

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 Appendix 1 to Annex E 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.

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.

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.

Solicitation No. - N° de l'invitation

F5561-122027/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

ha1403

Client Ref. No. - N° de réf. du client

F5561-12-2027

File No. - N° du dossier

HAL-2-69030

CCC No./N° CCC - FMS No/ N° VME

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

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

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

Date of Corrective Action - Date de modalité de reprise

Client Name and Signature - Nom et signature de client

Date

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

Signature – Signature

Date

5. Additional Information – Renseignements supplémentaires



PWGSC-TPSGC

ANNEX F - MODIFICATIONS TO 1026A SUPPLIES - FIRM PRICE**F1 1026A (2008-05-12) Supplies - Firm Price are hereby amended as follows:**

Delete: 1026A 10 (2004-12-10) Conditions Precedent to Payment and Insert the following:

- (a) No payment must be made to the Contractor unless or until invoices, inspection notes, and all other documents prescribed by the Minister or by the Inspection Authority inspector are submitted in accordance with either the terms of the Contract or the instructions of the Minister.
- (b) In cases where costs have been paid by the Contractor and where payment is being made by the Minister:
Canada must make no payment to the Contractor unless or until the Contractor, if required to do so, establishes to the satisfaction of the Minister that the materials, parts, work in process, or finished work are free from all claims, liens, attachments, charges, or encumbrances.
- (c) In cases where costs have accrued in the accounts of the Contractor as liabilities to be discharged in the normal course of business and where the Minister is making payment, no payment must be made to the Contractor unless or until the Contractor, if required to do so, establishes to the satisfaction of the Minister that:
 - i. The Contractor is not, in the ordinary course of business, delinquent in discharging any accrued liabilities that have arisen under this Contract;
 - ii. the Minister's payment must be used only to discharge such liabilities; and,
 - iii. upon such discharge, the materials, parts, work in process, and finished work must be free from all claims, liens, charges, or encumbrances.
- (d) In case of finished work, Canada must make no payment to the Contractor unless or until such finished work has been inspected and accepted in accordance with the terms of this Contract.

ANNEX G - PROJECT MANAGEMENT SERVICES

G1. Contractor's Project Management Services

1. Intent

- (a) Job titles used in this Annex are for clarity within this document only. The Contractor is free to choose job titles that suit their organization.
- (b) The Contractor, through their Project Management Team, is responsible to discharge the duties and supply the deliverables required in the Contract and the Specifications.
- (c) Project Management is considered to encompass the direction and control of such functions as engineering, planning, purchasing, manufacturing, assembly, overhauls, installations and test and trials.

2. Project Manager

- (a) The Contractor shall supply an experienced Project Manager (PM) dedicated to this project only and delegate to him/her full responsibility to manage the project.
- (b) The PM shall have experience in managing a project of this nature.

3. Project Management Team

- (a) Other than the Project Manager, the Contractor may assign and vary other job descriptions to suit their organization; provided however that the collective resume of their Project Management Team shall provide for effective control of the project elements including but not limited to:

- i. Project Management
- ii. Quality Assurance
- iii. Material Management
- iv. Planning and Scheduling
- v. Estimating/
- vi. Safety and Environmental Management
- vii. Subcontracts Management

4. Tender Deliverables

- (a) Names, brief resumes, and a list of duties for each of the team members that ensures that each of the project elements listed in article 3 above have been addressed.

5. Reports

- (a) The following Management Reports and Documentation are to be prepared and maintained by the Contractor and submitted to the Crown in accordance with the Contract or upon request by the Contracting Authority:

Solicitation No. - N° de l'invitation

F5561-122027/A

Amd. No. - N° de la modif.

File No. - N° du dossier

HAL-2-69030

Buyer ID - Id de l'acheteur

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Client Ref. No. - N° de réf. du client

F5561-12-2027

CCC No./N° CCC - FMS No/ N° VME

-
- i. Production Work Schedule
 - ii. Inspection Summary Report
 - iii. Growth Work Summary

ANNEX H - FINANCIAL BID PRESENTATION SHEET

H0 Work Period Location: Bedford Institute of Oceanography

H1 Evaluation of Price

The price of the bid will be evaluated in Canadian dollars, the Goods and Services Tax or the Harmonized Sales Tax excluded.

| | | |
|----|--|----------|
| a) | Known Work For work as stated in Part 1 article 1.2, specified in Annexes "A" and detailed in the attached Pricing Data Sheet Annex "H", Appendix 1 for a FIRM PRICE of: | \$ _____ |
| b) | Unscheduled Work <i>Labour Cost:</i> Estimated labour hours at a firm Charge-out Labour Rate, including overhead and profit: 2000 person hours X \$ _____ per hour for a PRICE of: See articles H2.1 and H2.2 below. | \$ _____ |
| c) | Not Used - Daily Services Fees | \$ 0.00 |
| d) | Not Used - Vessel Transfer Cost | \$ 0.00 |
| e) | Not Used - Cost of Financial Security | \$ 0.00 |
| f) | EVALUATION PRICE GST Excluded, [a + b + c + d + e]: For an EVALUATION PRICE of : | \$ _____ |

H2 Unscheduled Work

Unscheduled work arising, as authorized by the Minister, will be 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 will 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."

H2.1: 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 C2.2 will not be negotiated, but will be compensated for in accordance with C2.2 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.

H2.2: 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 Table C1 line C1b) above.

H2.3: 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. A separate labour component for the purchase and handling of materials or subcontract administration is not allowable.

H3 Overtime

No overtime work will be compensated for under the Contract unless authorized in advance and in writing by the Contracting Authority. Any request for payment must be accompanied by a copy of the overtime authorization and a report containing such details as Canada may require with respect to the overtime work performed. Compensation for authorized overtime will be calculated by taking the average hourly direct labour rate premiums, plus certified fringe benefit additives, plus profit of 7 1/2 percent on labour premium and fringe benefits. These rates will remain firm for the duration of the Contract including all amendments and are subject to audit if deemed necessary by Canada.

H4 Not Used - Daily Services Fees

H5 Not Used - Vessel Transfer Costs

APPENDIX 1 TO ANNEX "H"
DETAILED PRICING DATA SHEET

| Item | Description | Page in Spec | Material | Labour | Total |
|------|--|--------------|----------|--------|-------|
| H-1 | Services H-1.1 Garbage \$..... H-1.2 Alleyways \$..... H-1.2 Masonite \$..... Per sheet H-1.3 Waste Oily Water \$.....al 5000 ltrs \$...../1000 ltrs H-1-4 Reports \$..... | 9 | \$ | \$ | \$ |
| H-2 | Production Chart | 10 | \$ | \$ | \$ |
| H-3 | Foc'sle Entrance Repairs | 11 | \$ | \$ | \$ |
| H-4 | Foam Fire Fighting Systems | 13 | \$ | \$ | \$ |
| H-5 | Upper Deck Coatings - AFT H-5.3 Price per M2 \$..... H-5.15 Price per US Gallon Amerlcoat 886 \$..... Price per US Gallon Kit Amerlock2 \$..... | 14 | \$ | \$ | \$ |
| H-6 | Ventilation Duct Cleaning | 17 | \$ | \$ | \$ |
| H-7 | Aviation Fuel Tank & Cofferdam (Survey) H-7.10 Price per meter \$..... | 22 | \$ | \$ | \$ |
| H-8 | Void Tanks (Survey) H-8.4 Unit cost of each add'l sq.meter \$..... H-8.9 Price of testing per tank \$..... | 25 | \$ | \$ | \$ |
| H-9 | Fire Detection System (Survey) | 27 | \$ | \$ | \$ |
| H-10 | Fixed Fire Suppression Systems (Survey) | 28 | \$ | \$ | \$ |
| H-11 | Fixed FM-200 Fire Suppression Systems | 30 | \$ | \$ | \$ |

| | | | | | |
|------|---|----|----|----|----|
| | (Survey) | | | | |
| H-12 | Portable Fire Extinguishers (Survey) | 32 | \$ | \$ | \$ |
| H-13 | Manhole Cover Stud Renewal | 33 | \$ | \$ | \$ |
| H-14 | Engine Room Ventilation Ducting Repairs | 34 | \$ | \$ | \$ |
| H-15 | Cabin Deck Coverings | 37 | \$ | \$ | \$ |
| H-16 | Boat & Upper Deck Window Frame Repairs | 39 | \$ | \$ | \$ |
| | Cost per new new window frames \$..... | | | | |
| E-1 | Heavy Lift Suspension Arm Repairs | 42 | \$ | \$ | \$ |
| | Cost of fabrication ad supply of new Pins \$..... Per pin | | | | |
| | Locking Tabs \$..... Per tab | | | | |
| | Bushes \$..... Per bushes | | | | |
| E-2 | Heavy Lift Blocks (Survey) | 44 | \$ | \$ | \$ |
| E-3 | Whip Winch Repairs | 48 | \$ | \$ | \$ |
| E-4 | Helicopter Hangar Drive Servicing | 52 | \$ | \$ | \$ |
| | E-4.10 Price per ultrasonic shot \$..... | | | | |
| | E-4.11 Accommodation Areas: | | | | |
| | Price per sq. Meter \$..... | | | | |
| | Price per sq. Meter for removals/reinstall \$..... | | | | |
| | Outside Areas: | | | | |
| | Price per sq.meter \$..... | | | | |
| | Price per sq.meter for removals/reinstall \$..... | | | | |
| E-5 | Aviation Fuel System Valves | 56 | \$ | \$ | \$ |
| E-6 | Fire Pump (Survey) | 58 | \$ | \$ | \$ |
| L-1 | Galley Stove Cleaning | 60 | \$ | \$ | \$ |
| | L-1.8 Premium Rate Weekends and Quiet Hours: 6:00 pm - 6 am | | | | |
| | \$..... Per hour | | | | |
| L-2 | Fire Pump Motor Overhauls | 62 | \$ | \$ | \$ |
| | | | | | |

Solicitation No. - N° de l'invitation

F5561-122027/A

Amd. No. - N° de la modif.

File No. - N° du dossier

HAL-2-69030

Buyer ID - Id de l'acheteur

hal403

CCC No./N° CCC - FMS No/ N° VME

Client Ref. No. - N° de réf. du client

F5561-12-2027

| | | | | | |
|--|------------------|--|----|----|----|
| | Total Known Work | | \$ | \$ | \$ |
|--|------------------|--|----|----|----|



Canadian
Coast Guard

Garde côtière
canadienne

Canadian Coast Guard Maritimes Region

CCGS EDWARD CORNWALLIS



**ALONGSIDE
REFIT SPECIFICATION**

SPECIFICATION: 12 - E007 - 002 - 2

Version – 1

REQUISITION NUMBER: F5561-122027

Date: 28 May 2012

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TABLE OF CONTENTS

GENERAL NOTES 4

H-1 SERVICES..... 9

H-2 PRODUCTION CHART..... 10

H-3 FOCSE ENTRANCE REPAIRS..... 11

H-4 FOAM FIRE FIGHTING SYSTEMS..... 13

H-5 UPPER DECK COATINGS - AFT 14

H-6 VENTILATION DUCT CLEANING 17

H-7 AVIATION FUEL TANK & COFFERDAM (SURVEY) 22

H-8 VOID TANKS (SURVEY) 25

H-9 FIRE DETECTION SYSTEM (SURVEY) 27

H-10 FIXED FIRE SUPPRESSION SYSTEMS (SURVEY) 28

H-11 FIXED FM-200 FIRE SUPPRESSION SYSTEMS (SURVEY)..... 30

H-12 PORTABLE FIRE EXTINGUISHERS (SURVEY)..... 32

H-13 MANHOLE COVER STUD RENEWAL..... 33

H-14 ENGINE ROOM VENTILATION DUCTING REPAIRS 34

H-15 CABIN DECK COVERINGS..... 37

H-16 BOAT & UPPER DECK WINDOW FRAME REPAIRS 39

E-1 HEAVY LIFT SUSPENSION ARM REPAIRS..... 42

E-2 HEAVY LIFT BLOCKS (SURVEY)..... 44

E-3 WHIP WINCH REPAIRS 48

E-4 HELICOPTER HANGAR DRIVE SERVICING..... 52

E-5 AVIATION FUEL SYSTEM VALVES..... 56

E-6 FIRE PUMP (SURVEY) 58

L-1 GALLEY STOVE CLEANING..... 60

L-2 FIRE PUMP MOTOR OVERHAULS..... 62

GENERAL NOTES

1. All the following work specified herein and all repairs, inspections and renewals shall be completed to the satisfaction of the Owner's Representative, who, unless otherwise advised, will be the Chief Engineer of the ship. Upon completion of each item of the specification, the Representative shall be so notified so that he may inspect the work prior to final closing up and after complete closing up. Failure to give notification does not absolve Contractor of the responsibility of providing the Representative the opportunity to inspect any item. Inspection of any item by the Representative does not substitute for any required inspection by Transport Canada Marine Safety (TCMS), Lloyds Register of Shipping (LRS), Public Works & Government Services Canada (PWGSC), or Health Canada (HC).
2. Any item of work involving the use of heat in its execution requires that Contractor advise the Owner's Representative prior to starting such heating and upon its completion. Contractor shall be responsible for maintaining a competent and properly equipped fire watch during and for one full hour after all hot work. The fire watch shall be arranged such that all sides of surfaces being worked on are visible and accessible. Contractor shall provide sufficient suitable fire extinguishers and a fire watch during any such heating and until the work has cooled. Ship's extinguishers are not to be used except in an emergency. Contractor shall abide by the Coast Guard Hot Work Policy listed in the attached Safety Annex. Contractor shall be responsible to ensure that Contractor's personnel including any subcontractors shall follow the policy.
3. Contractor to include in quote the costs of any and all transportation, staging, rigging, slinging, craning, removals, and installations of parts and equipment such as may be required to carry out work.
4. Any piping, manholes, parts and/or equipment requiring removal to carry out specified work and/or to gain access shall be replaced upon completion with new jointing, nuts, bolts, anti-seize compound, clamps and brackets as applicable (Contractor supply), and secured in original condition. Any removals shall be jointly inspected by both Contractor and the Owner's representative prior to removal.

5. Contractor to ensure that all spaces, compartments, and areas of the ship, both internal and external, are left in as clean a condition as found. The cost of removing dirt, debris, and associated material shall be included in the quote on each item of this specification
6. Contractor to supply the Owner's Representative with marine chemist's certificates in accordance with TCMS TP 3177E before any cleaning, painting or hot work is commenced in confined spaces or machinery compartments. Certificates shall clearly state the type of work permitted, and shall be renewed as required by the regulations.
7. Whenever any work is being carried out involving a ship's firefighting or fire detecting system, it shall be done in such a way as to leave the vessel and any persons aboard with adequate protection against fire at all times. This may be so accomplished by removal or disarming of only a portion of the system at a time, by replacement with spares while work is in progress or by other reasonable means acceptable to the Owner's Representative.
8. Unless specified otherwise, any replacement and/or disturbed steel work to be given a minimum of two (2) coats of marine primer (CGSB 1-GP-48M) immediately upon completion of work.
9. All materials, unless otherwise specified, shall be supplied by Contractor. Contractor to supply all necessary tools to perform specified work except for specialty tools which will be issued by and returned to the Owner's Representative. Otherwise, ship's tools and equipment will not be available for Contractor's use. Where a particular item is specified, or where substitution must be made, the chief engineer or representative must approve all material offered.

10. Contractor to be responsible for calling in the services of Transport Canada Marine Safety (TCMS), Lloyds Register of Shipping (LRS) and Health Canada (HC) Inspectors when and as required for survey and inspection.
11. During the period that this vessel is in refit, members of the ship's crew, ship's engineers, Regional staff and service specialists will be carrying out repairs to, or maintenance of, various ships' equipment not covered in this specification. Every effort will be taken to ensure that this self-maintenance will not interfere, or conflict, with that being carried out by Contractor's personnel.
12. The successful Contractor to provide at Pre-Refit Meeting a Production Bar Chart showing commencement and completion dates for each item in this specification. This document shall highlight any critical dates and be capable of showing the effects of late completion date of the work package. Updated production schedules shall be presented by Contractor at each refit meeting or more frequently if requested by Owner's Representative.
13. Public Service Smoking Policy forbids smoking in Government ships in all areas inside the ship where shipyard personnel will be working. Contractor shall inform shipyard workers of this policy and ensure that it is complied with in all cases.
14. The overhaul and installation of all machinery and equipment specified herein shall be as per the manufacturers' applicable instructions, drawings and specifications.
15. All test results, calibrations, measurements, trials and readings shall be properly tabulated, compiled and three typewritten copies shall be provided; two copies to Chief Engineer and one copy to PWGSC Contracting Authority. All test and trials shall be performed to the satisfaction of Chief Engineer, TCMS inspector where applicable.

16. Contractor shall use fully qualified, certified and competent tradesmen and supervision to ensure a uniform and high level of workmanship as judged by normally accepted shipbuilding standards to the owners' satisfaction.
17. Any items or equipment to be removed and subsequently reinstalled in order to carry out the work specified or arising shall be jointly inspected for damages prior to removal by both Contractor and Coast Guard Technical Authority.
18. Contractor shall provide adequate temporary protection for any equipment or areas affected by this refit. Contractor shall take proper precautions to maintain in a proper state of preservation any machinery, equipment, fittings, stores or items of outfit which might become damaged by exposure, movement of materials, paint, sand grit or shot blasting, welding, airborne particles from sand grit or shot blasting, welding, grinding, burning, gouging, painting or airborne particles of paint. Any damage shall be the responsibility of Contractor.
19. Contractor must ensure that welding is performed by a welder certified by the Canadian Welding Bureau (CWB) in accordance with the requirements of the following Canadian Standards Association (CSA) standards:
 - (a) **CSA W47.1, Certification for Companies for Fusion Welding of Steel Structures (Minimum division level 2.0); and**
 - (b) **CSA W47.2-M1987 (R2003), Certification for Companies for Fusion Welding of Aluminum (Minimum division level 2.1).**
20. All electrical installations or renewals shall be in accordance with the latest editions of the following marine standards:
 - TCMS TP 127 - Ship Safety Electrical Standards
 - IEEE Standard 45 - Recommended Practice for Electrical Installation on Shipboard.
21. All drawings and drawing revisions that Contractor is requested to do during this contract shall be of a quality equal to that of the drawings that are requested to be updated.

22. All materials supplied and work carried out by Contractor shall be adequate to meet the following service conditions:

- outside air temperature of minus (-) 40⁰ C to plus (+) 35⁰ C;
- wind velocity of 50 knots;
- water temperature of minus (-) 2⁰ C to plus (+) 30⁰ C;
- shock loading of 2.5g horizontal, 1.5g vertical.

22. ACMs are found in some accommodation flooring and in some electrical cable transits that use fire stop materials. The latest survey done in January 2012 determined that there are small quantities of non-friable ACMs (Asbestos Containing Materials) onboard the CCGS Edward Cornwallis. There are no Short-Term Recommendations as per section 6.2 pages 10 & 11 of the report. The latest report is in PDF and available with reference files for this work package. All other materials onboard the CCGS Edward Cornwallis been found to be asbestos free. Contractors must follow the vessel's Asbestos Management Plan when handling, disturbing, or working in the direct vicinity of these identified ACMs. Type 1 Work Procedures are necessary to work with these materials. Contractors must employ workers specifically trained and certified in dealing with ACMs or subcontract to parties that have personnel certified and trained to work with these materials. There is a comprehensive list onboard of spaces and materials regarding their ACM composition. Contractor shall obtain specific job site information from Chief Engineer to determine if these ACMs are present. All necessary documents of compliance shall be completed and given to Chief Engineer prior to, during, and after completion of all work as applicable to the process. Air quality testing shall be carried out prior to and after completion of work by certified personnel with the proper equipment. Copies of all air quality testing shall be given to Chief Engineer.

[Top of the Document](#)

H-1 SERVICES

H-1.1 A garbage container shall be supplied by Contractor for their own use. The BIO garbage containers shall not be used.

H-1.2 Alleyways and areas that shall be used by Contractor's personnel on a regular basis for access to required work areas shall be suitably protected from damage, soil, etc. All affected alleyways shall have deck surfaces covered by 1/8" Masonite rough side up extending to the full extremities of the areas dealt with. All seams, butts, and edges of the applied Masonite shall be taped to prevent soil and debris from getting underneath and to prevent masonite from shifting. All internal bulkhead panels in the above-noted areas shall be suitably protected with application of 1/8" Masonite panels extending to a minimum four (4) foot height above deck level, just under handrails with all corners shall be covered and taped. Again, all butts, seams and edges shall be taped. Contractor shall quote on supplying and installing 3200 sq. ft. (297 m²) of 1/8" Masonite. Upon completion of refit contractor shall lift all masonite, tape and dispose. The area shall be swept clean and mopped on completion of the refit and any tape residue shall be removed. Contractor to quote separately a price per standard sheet for cost of supply, installation and removal of Masonite. Total cost shall be adjusted up or down by PWGSC 1379 action.

H-1.3 Contractor shall quote on removing 5000 litres of waste oil/oily water and provide a unit cost per 1000 litres for adjustment purposes up or down by 1379 action. This requirement is over and above any removals specifically identified in individual specification items.

H-1.4 Equipment / Machinery Survey Reports Contractor shall prepare and deliver three bound reports of all specified readings and measurements during this refit period and one electronic copy of documentation in Adobe PDF format. Readings shall be indexed by specification number. Each page of the report shall be numbered and dated.

The copies shall be delivered to:

Attn: Darren Kennedy; Canadian Coast Guard ITS- ME,
PO Box 1000; Dartmouth, Nova Scotia, B2Y 3Z8

[Top of the Document](#)

H-2 PRODUCTION CHART

- H-2.1.** Bidding Contractors are to provide an estimated time/dates that the ships is in refit. PWGCS shall relay the estimated times to CGTA.
- H-2.2.** The successful Contractor shall supply 3 copies of a detailed bar chart showing the planned work schedule for refit period. This bar chart is to show, for each spec. item, the start date, the manpower loading, the duration and the completion date. **The chart shall also outline Contractor's "Critical Path"**.
- H-2.3.** The bar chart shall be updated weekly or for each scheduled progress meeting. It shall reflect the actual production and changes to the anticipated completion dates of each specification item.
- H-2.4.** A copy of the original and a copy of each weekly update shall be given to CGTA prior to each weekly or scheduled progress meeting. All copies shall be in colour (per originals).
- H-2.5.** One copy of the original bar chart shall be sent via e-mail before the close of business on the day of contract award to CGTA (Email: darren.kennedy@dfo-mpo.gc.ca).

[Top of the Document](#)

H-3 FOC SLE ENTRANCE REPAIRS

H-3.1 Insulating material and protective sheathing damaged around the interior door frame. Step and aluminium kick plate are badly corroded.

H-3.2 Prior to the commencement of any and all work, Contractor shall carry out a “Pre-Job Safety Assessment”.



Lower section of entrance.

New Style Step

H-3.3 Contractor shall remove approximately 4” of insulating material and expanded mesh covering from around top and sides of weather door frame. Existing steel step and aluminium kick plate shall be removed and insulating material from the bottom of door frame down to deck.

H-3.4 Contractor shall mechanically clean exposed bulkhead areas outlined below in H-3.6 and approximately 0.5 m² of deck underneath the step to SSPC-SP11.

H-3.5 New style step to be fabricated using 1 ½” x ¼” angle, 4” x ½” flat-bar and a piece of galvanized stair thread as shown in the photo above. Mild steel stair thread shall be bolted into the frame using ¼” stainless fasteners. Frame shall be welded to bulkhead using continuous weld. Stair thread frame measures approximately 36” X 10”.

H-3.6 All exposed areas and new steel shall be given 1 coat of Amercoat 83HS epoxy resin primer and 2 topcoats of Amerlock 2 white epoxy on bulkhead and step frame, and one coat of Amerlock 2 pearl grey on deck. Application shall conform to current editions of Ameron International Product Data/Application Instruction sheets, for the respective system components (as listed).

H-3.7 All insulating material removed in H-3.3 shall be replaced with new using proper fastening techniques. Insulating material to be stopped 2” above deck to prevent water wicking.

H-3.8 Insulating material shall be covered with 14 gauge galvanized sheet metal forming a frame around interior of doorway including kick plate between step and bottom of door. Sheet metal must also wrap around bottom of insulation material 2” above deck at a 90 deg angle.

H-3.9 Protective sheathing shall be securely fastened to door frame and existing expanded mesh sheathing.

H-3.10 Hot work shall not commence until all areas in the vicinity of hot work have been certified Gas Free and Safe for Hot Work. Contractor shall determine by testing/inspection and proof of certificate that the area is safe for hot work. A copy of the hot work certificate shall be given to Chief Engineer and a copy posted in a conspicuous location adjacent to the hot work area. All precautions shall be taken to protect all areas and personnel from hot work damage. Contractor is responsible for maintaining an adequate fire watch during the course of all hot work. This shall include providing various applicable extinguishers and extinguishing mediums as necessary. This shall also include any necessary preparations and cleaning in the vicinity of the work area to obtain a gas-free permit.

H-3.11 All work to be completed to the satisfaction of CGTA.

[Top of the Document](#)

H-4 FOAM FIRE FIGHTING SYSTEMS

H-4.1. Vessel's foam firefighting systems shall be inspected and certified for TCMS Survey Credit.

- Helicopter Hangar Deck Foam Systems. Nordic Steel Products (2 Tanks)
- Wheel House Top Monitors and External Helicopter Deck Foam System (1 Tank)

H-4.2. The system shall be inspected and certified by a Class approved, certified marine fire systems inspection agency. The certification issued shall be valid for a 12 month period. This work shall include but is not limited to:

- Foam Concentrate samples and testing. (Contractor shall quote on testing 4 samples).
- All monitors checked for vertical and horizontal movement
- All branch piping inspected and proven clear
- Lines , hoses and nozzles inspected, tested and proven clear
- All valves checked for proper operation
- Foam concentrate contents verified
- Fire Main inspected and tested
- System sealed and left in operational order, inspection date labels attached
- All instruction plates inspected
- Foam tanks externally inspected.

H-4.3. Any defects found shall be corrected and will be dealt with by PWGSC 1379 action.

H-4.4. Contractor shall provide certification providing characteristics of new foam concentrate, to determine acceptability. Report shall be provided to Chief Engineer for record keeping purposes. Certification shall be provided to Chief Engineer (two copies).

[Top of the Document](#)

H-5 UPPER DECK COATINGS - AFT

H-5.1. The external deck plating and some adjacent areas/attachments are very badly corroded. Surfaces are to be suitably prepared and proven epoxy coatings applied.

H-5.2. This item shall be completed in conjunction with Items H-7 and E-5.

H-5.3. Total area is aft, extending forward to Frame 23. Upper deck plating and gunwale plate plus various deck attachments (access covers, winch bases etc.) are to be treated. Approximate deck area is 150 m², exclusive of attachments. Contractor shall verify all measurements.

In addition to deck surface, Contractor shall similarly treat and coat, with topcoats (Amerlock 2) to match original colours: black (for bits, bollard and fairlead bases), white (for vents and sounding tubes) etc. for the following items:

- six sets of mooring line bits and the towing bollard
- two deck fairlead bases (in way of each mooring winch's warping head)
- vent pipes for Boiler Water Tank, Aft Peak Tank, and Void (Fr. 0-13)
- sounding tube for Aft Peak Tank.
- standpipe for deck connection valve (near access port to escape trunk).
- brackets for square, plastic storage container (Port side)
- deck scuppers – in way of and beneath removable grids.
- sill steps, for both weather doors (to accommodations)

H-5.4. Contractor shall be responsible for clearing the work area. Contractor shall ensure that the mooring winches, towing winch, control stands, hydraulic piping & hoses, shore power cable etc. are all suitably protected against all damage, throughout the specific work period.

H-5.8. Periodically, during and upon completion of surface preparation work, all areas shall be inspected by Contractor's representative, vessel's Chief Engineer (or his delegate) and CGTA.

H-5.9. Coating system to be applied is by Ameron:

- Amercoat 83HS Fast-dry epoxy primer
- Amerlock 2 Fast drying epoxy (Deck Colour: Pearl Grey)
- Amercoat 886 Anti-slip additive

Application shall conform to the current editions of the Ameron International Product Data/Application Instruction sheets, for the respective system components (as listed).

H-5.10. Prior to application of the Amercoat 83HS, all prepared surfaces shall be completely cleaned/degreased, using recommended thinner Amercoat 7. Contractor shall insure that all flash rust is removed to SSPC-SP11, prior to cleaning/degreasing and application of Amercoat 83HS.

H-5.11. Application method(s) chosen shall remain in full accordance with the particular Product Data/Application Sheets, prevent over-spray and also achieve the recommended DFT.

H-5.12. Contractor shall carry out and provide WFT/DFT readings, as appropriate, through the work period to ensure quality control.

H-5.13. Amerlock 2 shall be applied in at least two coats: the first being solely Amerlock 2. Ensuing coats (decks and steps) shall have the anti-slip additive (Amercoat 886) mixed in.

H-5.14. Note: For estimating purposes, Contractor shall quote two US Gallon containers of Amercoat 886 per each five US Gallon kit of Amerlock 2.

H-5.15. Upon the first application of Amerlock 2 with Amercoat 886, CGTA shall attend. Adjustment of the mixing ratio shall be decided, with any adjustment handled by PWGSC 1379 action.

H-5.16. All work to be carried out to the satisfaction of CGTA.

[Top of the Document](#)

H-6 VENTILATION DUCT CLEANING

- H-6.1.** The intent of this item shall be to access and clean supply air ducting for accommodations, exhaust air ducting for the washrooms, supply air ducting to the wheelhouse windows, plus supply and exhaust air ducting (including the exhaust hood) plus return air ducting for the accommodations and Wheelhouse systems. In addition, Contractor shall clean dryer exhaust ducting from both laundry rooms. Contractor is requested to suitably co-ordinate this work with Chief Engineer plus any other work slated during the refit period.
- H-6.2.** Contractor shall provide the services of a qualified HVAC representative to mechanically clean the vessel's ducting. All ducting is to be cleaned thoroughly of dust, dirt, debris, scale, rust, etc. Contractor shall be responsible for making penetrations for the cleaning equipment and the subsequent sealing of such access points upon completion of all work. Contractor shall co-ordinate the entire job with the ship's staff in order to minimize interruption of normal work routines.
- H-6.3.** Since this task has been carried out in previous maintenance periods, a good many access points exist. Note: Plastic plugs are not to be used to seal access points. All access points shall be sealed with contractor supply metal plugs.
- H-6.4.** It will be necessary to remove ceiling panels and difusers on all decks in order to access the applicable ventilation trunking, ducting, and tubes. All items are to be replaced in good order upon completion of all work. Any wiring, piping, lighting, fixtures, fasteners, metal work, etc. that are removed or repositioned to carry out this work is to be reinstalled in good order in its original location and condition. All insulation removed is to be reinstalled accordingly and all taped seams are to be retaped with new approved tape for HVAC systems.
- H-6.5.** Prior to commencing any work, Contractor shall tag and lock out each system supply/exhaust fan set. Contractor shall supply and install their own locking devices and keep possession of all keys during the scope of this work.

Ship's personnel will assist in pointing out the various air movement equipment.

H-6.6. Contractor is responsible for all materials, coverings, and equipment required shall perform this task. All labour required completing the cleaning, including that required for removals, reinstallation, opening, and closing up of equipment and ducting is Contractor's responsibility. Contractor will remove all materials used in the project from the vessel. Ship's waste receptacles and those on the dock will not be used for disposal of any removed materials.

H-6.7. Contractor is responsible for the cleaning of all spaces, furniture, equipment, etc. that is contaminated or soiled during the project.

H-6.8. All systems shall be closed up as per original upon completion of the cleaning process.

H-6.9. Presently some diffusers have been physically blocked with stuffing, etc. in various cabins and spaces. This has been carried out by various personnel without approval or knowledge. Contractor is to remove all blanks or plugs as they are encountered. These blanks are not to be put back such that all spaces will be served by ventilation and exhaust flow as applicable.

H-6.10. Contractor shall reset flow control dampers and other devices, to ensure correct balance of air flows - after cleaning.

Galley

H-6.11. The range hood and exhaust trunking is 400mm x 160mm, and 200mm x 125mm, and 600mm x 150mm - approximately 10m in length overall.

H-6.12. The Range Hood and trunking shall be chemically and/or steam cleaned. All dirt, grease, debris, and cleaning fluids shall be trapped and shall be removed ashore and disposed of by Contractor.

H-6.13. Prior to cleaning, all mechanical and electrical connections to range hood to be released, including piping for fire extinguishing system, associated controls and electrical lighting. All fittings liable to interfere with cleaning of the range hood shall to be temporarily relocated and protected.

H-6.14. The range hood filter screens shall be removed and steam cleaned.

H-6.15. Trunking in way of the exhaust fan shall be opened to allow complete degreasing of fan, fan motor, and its support brackets. Approximately 9m of 700mm x 260mm trunking is involved. It will be necessary to remove sections of the stainless steel cladding for access.

H-6.16. Trunking and range hood shall be reassembled in good order and adjustment upon completion of cleaning and inspection. All items removed or relocated to allow this work package to proceed shall be reassembled in good order and functionally tested to the satisfaction of Chief Engineer.

Accommodation Ventilation Cleaning

H-6.17. Accommodation HVAC supply and return air systems shall be mechanically cleaned of dust, dirt, oil, grease and other debris. Both air handling units are located on the Boat Deck in the Accommodation Fan Room, Frames 48- 60. The system consists of the components and interconnecting ductwork, which are located throughout accommodations on, and between the Boat, Upper, and Main decks.

H-6.18. Contractor shall have access to 1:100 scale drawings: A/C System Diagrams which details the location of air handling units, outlets, return air dampers and ducting runs.

- 229-01 (2 sheets) HVAC various decks
- 229-02 (2 sheets) HVAC various decks
- (8 sheets) Aft Cargo Hold
- (12 sheets) Laundry Room list of materials on sheet 12
- (2 sheets) Wheelhouse A/C system and materials list

H-6.19. Most cabins will be occupied during the scope of this work. Contractor shall not enter any cabin without prior permission of occupant or having occupant in attendance.

H-6.20. During the cleaning of ductwork, care is to be taken not to allow the ingress of contaminants into the accommodations and work areas serviced by the air outlets. Particular attention is to be paid to the following locations:

- Boat Deck - Radio Room and Electronics Equipment Room
- Upper Deck - Ship's Office, Engineering Office
- Main Deck - Galley, Crew's Mess, Officer's Mess

H-6.21. All equipment exposed to the possibility of contamination is to be protected with taped down polyethylene film. Contractor is responsible for removal from the vessel of all dirt and debris removed from the air handling systems.

Aft Cargo Hold

H-6.22. Contractor shall access and clean the exhaust fan ducting (port side). Fan discharge ducting runs athwartships and through normally secured storage spaces and up through the deck head to a louvered outlet - located on the Upper Deck (Portside, Frame 20), identified 'Cargo Hold Outlet'.

H-6.23. Contractor shall cut access points in the ducting to carry out cleaning. Ducting is approximately 35 mm diameter x 8 m long. All access points shall be covered and sealed upon the completion of all work.

Laundry Dryers

H-6.24.

- M-58 Main Deck, port side (Ship's Laundry)
- U-64 Upper Deck, aft (Officer's Laundry)

H-6.25. Contractor shall clean dryer ducting in each of the above spaces. There are three combination washer/dryer units and a large commercial dryer in the Ship's Laundry. There is only one combination washer/dryer unit in the Officer's Laundry.

H-6.26. In order to access the combination washer/dryer ducting, it will be necessary for Contractor to unbolt each unit and pull it forward. Units shall be refastened in place upon completion of all work.

H-6.27. To **complete cleaning** of Ship's Laundry ducting, stainless steel outlet screen (Upper Deck, Port side, Frame 60) to be removed by Contractor and refitted afterwards.

Dryer Duct Outlet (Ship's Laundry)



Wheelhouse HVAC System

The Wheelhouse HVAC supply and return air system is to be mechanically cleaned of dust, dirt, oil, grease and other debris. The air handling unit is located in compartment on top of Wheelhouse. System consists of the components and interconnecting ductwork which provides heated and cooled air to the Wheelhouse (Bridge) and its windows.

H-6.28. All materials, equipment, and personnel shall be Contractor supply.

[Top of the Document](#)

H-7 AVIATION FUEL TANK & COFFERDAM (SURVEY)

H-7.1 Aviation Fuel Tank and Cofferdam shall be opened for cleaning, inspection, testing, and TCMS survey credit. This job shall be done in conjunction with E-05 & H-5.

| Field | Tank Name | Location | Volume | Manhole Location |
|--------------|-------------------|-----------------|---------------|--|
| | Av Fuel Cofferdam | Fr. 4.5-12.5 | 44.5 | #69 on Towing Deck aft port side. |
| 3L048 | Av Fuel Tank | Fr. 5.5-11.5 | 23.0 | On top of tank via #69 Cofferdam cover |

H-7.2 Aviation Fuel Tank is constructed of stainless steel and is not coated either, inside or out. Cofferdam is constructed of steel, with coated surfaces. All pipe work within the cofferdam is constructed of stainless steel.

H-7.3 Contractor shall thoroughly ventilate cofferdam and tank. Each shall be certified gas free as required by TCMS TP3177E. Testing shall be carried out by a certified Marine Chemist. Cofferdam and Tank shall be tested and certified 'Safe for Entry' and also, 'Safe for Hot Work'. A copy of each certificate shall be given to Chief Engineer and a copy shall be posted in a conspicuous area near the entrance to space, prior to any personnel commencing work.

H-7.4 Prior to opening Aviation Fuel Tank, two Armstrong Gas Detector sensors, located within Cofferdam shall be covered with plastic and sealed to protect them from damage. Locations of both detectors shall be indicated by an engineer (ship's staff).

H-7.5 Aviation Fuel Tank will be pumped down by ship's personnel until the pumps lose suction. Approximately 1 cubic meter of Aviation Fuel (JET A-1) will remain. Contractor shall use pumps suited for use in flammable atmospheres, handling flammable products, to remove this ashore for disposal. This residual fuel shall be disposed of ashore in an environmentally safe and approved manner by Contractor.

H-7.6 Aviation Fuel Tank shall be hot-water cleaned to ensure biological contaminants are killed. The required water temperature is 70°C/158°F (minimum). Tank shall be flushed with fresh water.

- H-7.7** Upon completion of all cleaning and removal of residues, Aviation Fuel Tank internals shall be wiped down with clean, lint-free rags until completely dry. All dirt and debris and cleaning materials shall be removed ashore.
- H-7.8** Cofferdam internals shall be inspected by CGTA prior to mechanically cleaning damaged coating areas. Contractor and CGTA shall agree on repair area prior to carrying out mechanical cleaning and re-coating.
- H-7.9** All identified surface areas shall be power tool cleaned to SSPC-SP11 standard. Two coats of 4-8 mils DFT coats of Amercoat 235 or equivalent shall be applied in accordance with the manufacturer's instructions. The first coat shall be a contrasting colour with the existing coat and the final coat shall match the cofferdam colour.
- H-7.10** For bid purposes, Contractor shall quote on 10 square meters and a rate per square meter for PWGSC 1379 adjustment purposes.
- H-7.11** Upon completion of all work, both tank and cofferdam shall be separately air tested to a maximum of 2 psig (13.8 kPa) for a period of two hours.
- H-7.12** In order to carry out pneumatic tank testing, the ventilation supply and exhaust trunks shall be blanked for the air tests. Contractor is advised that blanking the two trunks is a difficult process and may require the removal of one of the fan units. Blanks shall be removed on completion of testing.
- H-7.13** A water manometer must be used during air testing to prevent over pressure of the tank and must be set up to limit air pressure in each tank to 2-3 psig.
- H-7.14** Contractor shall supply all equipment, materials, and labour for all testing.
- H-7.15** All testing shall be completed as per the requirements of TCMS Surveyor.

H-7.16 Upon completion of all cleaning, inspections, and testing, Aviation Fuel Tank and Cofferdam shall be closed up in good order using new gaskets. Anti-seize compound to be applied to all fasteners. Stud replacement shall be per H-13. All items removed or disturbed during the course of all this work shall be put back as per original.

H-7.17 All work shall be to the satisfaction of CGTA and TCMS Surveyor.

[Top of the Document](#)

H-8 VOID TANKS (SURVEY)

H-8.1. The intent of this spec is to open out the Void Spaces listed below for cleaning, inspection, and testing as required by TCMS Surveyor.

Field # Tank # Surface Area m²

| | | |
|-------|-------------------------------|-----|
| 3L029 | Transom - Fr. 13 – Centre Aft | 308 |
| 3L038 | Frames 106-117 - Port | 41 |
| 3L039 | Frames 106-117 - Starboard | 41 |
| 3L040 | Frames 117-126 - Port | 28 |
| 3L041 | Frames 117-126 - Starboard | 28 |
| 3L044 | Frames 163-175 - Port | 111 |
| 3L045 | Frames 163-175 - Starboard | 111 |
| 3L046 | Frames 169-175 - Centre | 118 |

TOTAL : 786 m²

H-8.2. Void Spaces shall be opened up, ventilated, and tested to ensure that they are gas free and Safe for Entry. A copy of each gas free certificate for each space shall be given to CGTA prior to workers entering the space and a copy of each certificate shall be posted in a conspicuous location in close proximity to the manhole cover for each space.

H-8.3. Contractor shall provide each space with a mechanical ventilation/extraction system, vented to the outside of the ship. Good ventilation must be provided and any blowers/extractors must ensure good air movement and solvent vapour removal from the lowest point in the tanks. Vapours, particulates and other debris shall not be allowed to enter the ship.

H-8.4. Void spaces shall be thoroughly cleaned internally to remove debris, rust, and scale on all surfaces. Care must be taken so as not to wet existing steam piping insulation that may exist in some void spaces. All residues shall be disposed of ashore. Tank internals are then to be inspected by CGTA and TCMS Surveyor. Rusty and bare areas shall be power tool cleaned SSPC-SP11 and sufficiently feathered to existing coatings. All areas shall be prepared with Devprep 88 Cleaner and coated with one coat of Amercoat 235 Haze Grey Colour and a final coat of Amercoat 235 Off-White colour. Contractor shall quote on touching up 5 m² for each void tank and the unit

cost for preparing and touching up of each additional square meter. The final total for touch up coating shall then be adjusted up or down by PWGSC 1379 action

- H-8.5.** Sounding pipes, suction pipes and vents shall be proven clear and the tank shall be closed up using new 1/4" neoprene rubber manhole gaskets.
- H-8.6.** Each level alarm shall be tested for correct operation. Ship's personnel shall verify that each alarm has been activated.
- H-8.7.** Any studs broken in the removal and replacement of the manhole covers shall be renewed as per H-13 Manhole Stud Replacement.
- H-8.8.** Void spaces shall be pressure tested using air to the satisfaction of the attending Marine Safety Inspector. Contractor will supply all necessary materials, fittings, blanks, etc and labour for the respective tests. A water column must be used in this type of testing to prevent over pressure. The column must be calibrated to relief any pressure in excess of 2-3 psi. Contractor shall supply all materials and hardware for this type of test.
- H-8.9.** Contractor shall quote separately for the cost of testing these tanks for TCMS. A credit shall be given in the event testing is not required.
- H-8.10.** Vent heads requiring removal for this testing shall be re-installed in good order with new gaskets upon completion of all work. Vent heads shall be replaced using stainless steel bolts and insulation sleeves (Winteb Vents) where fitted.
- H-8.11.** Upon completion of all work, each void space shall be closed up in good order using new manhole gaskets. Any defective studs shall be renewed.
- H-8.12.** CGTA shall inspect each space prior to final closing.

[Top of the Document](#)

H-9 FIRE DETECTION SYSTEM (SURVEY)

H-9.1. The vessel's fixed fire detection system shall be inspected and certified by a Class approved, marine agency. Fire Detection System is a: Notifier NFS-640

H-9.2. The vessel's fire detection system consists of the following:

- 151 Smoke Detectors
- 19 Heat Detectors (rate of rise) or (fixed)
- 3 Flame Detectors
- 33 Pull Station
- Monitor
- Bells
- General Alarm Activation
- Fire Door Activation

H-9.3. All the above components shall be tested including a power supply inspection and emergency power supply inspections, Annunciation test and Inspections, control unit test and inspection.

H-9.4. All rotating beacons and flashing lights are to be tested and proven in good working order.

H-9.5. All audible alarms are to be tested and proven in good working order.

H-9.6. Any defects found are to be corrected and dealt with by PWGSC 1379 action.

H-9.7. Certification in two copies to be passed to CGTA on completion of work.

[Top of the Document](#)

H-10 FIXED FIRE SUPPRESSION SYSTEMS (SURVEY)

H-10.1. Vessel's fixed CO₂, Wet and Dry, Chemical fire suppression systems shall be inspected and certified for TCMS.

- a. 100 Lb CO₂ system (21 of) No hydro static testing is required
- b. 4 gallon Kidde Wet Chemical System (galley) No hydro static testing is required
- c. 50 lb Dry Chemical wheeled system (3 of) ONE hydro static testing is required
- d. 50 lb CO₂ system (5 of) No hydro static testing is required

H-10.2. System shall be inspected and certified by only a current factory certified fire suppression system inspection and certification specialist. This shall include:

- Inspection and test of the manual/ electric cable pulls
- Inspection of the gas piping
- Blowing through of gas through the piping
- Inspection and test of siren/horn/bell
- Weighing of the gas cylinders
- Determination of the quantity of gas in each cylinder
- Testing of the time delays
- Testing of equipment and fan shutdowns
- Hydrostatic test of the gas cylinders

H-10.3. The system cylinders are listed in the Appendix A

H-10.4. All weights, levels, and pressures of cylinders to be measured and recorded.

H-10.5. All rotating beacons and flashing lights shall be tested and proven in good working order.

H-10.6. All audible alarms shall be tested and proven in good working order.

H-10.7. All wires and cables shall be proven in good working order.

H-10.8. All piping and nozzles shall be proven clear.

H-10.9. Any defects found are to be corrected and dealt with by PWGSC 1379 action.

H-10.10. Certification: two copies to be passed to CGTA on completion of work.

[Top of the Document](#)

H-11 Fixed FM-200 Fire Suppression Systems (Survey)

H-11.1. The vessel's fixed fire suppression systems shall be inspected and serviced by current marine certified service personnel. System is a Kidde Marine (FM-200).

H-11.2. All weights, levels, and pressures of cylinders shall be measured and recorded. This shall include:

- Inspection and test of the manual/ electric cable pulls
- Inspection of the gas piping
- Blowing through of gas through the piping
- Inspection and test of siren/horn/bell
- Weighing of the gas cylinders
- Determination of the quantity of gas in each cylinder
- Testing of the time delays
- Testing of equipment and fan shutdowns

H-11.3. The system cylinders are listed in Appendix "B" and below:

- FM200 - 125 lb Cylinder ECS (2)
- FM200 - 200 lb Cylinder ECS (2)
- FM200 - 350 lb Cylinder ECS (3)
- FM200 - 40 lb Cylinder ECS (1)
- FM200 - 600 lb Cylinder ECS (4)
- FM200 - 1010lb Cylinder ADS (2)
- FM200 - 395 lb Cylinder ADS (1)
- FM200 - 675 lb Cylinder ADS (4)

H-11.4. All rotating beacons and flashing lights are to be tested and proven in good working order.

H-11.5. All audible alarms are to be tested and proven in good working order.

H-11.6. All wires and cables to be proven in good working order.

H-11.7. All piping and nozzles to be proven clear.

H-11.8. Any defects found are to be corrected and dealt with by PWGSC 1379 action.

H-11.9. Certification: two copies shall be given to CGTA on completion of work.

[Top of the Document](#)

H-12 PORTABLE FIRE EXTINGUISHERS (SURVEY)

H-12.1. The extinguishers are to be weighed, inspected, and tagged for re-certification by a qualified service agency.

H-12.2. Type and quantity of extinguishers are listed in Appendix “C”.

H-12.3. The portable extinguishers in the barge, lifeboat and FRC (5 portable units) and the FRC fixed engine compartment suppression system shall be inspected and certified at this time.

H-12.4. Two copies of certificates of inspection and tests are to be turned over to CGTA.

H-12.5. Portable extinguishers shall remain operational and onboard the vessel at all times, except when being serviced. Any extinguishers that are required to be sent out for the purpose of recharging, repairs or testing, are to be replaced with temporary extinguishers of the same type and size provided by Contractor. Time required to carry out this work is to be kept to a minimum.

H-12.6. Any additional service work shall be PWGSC 1379 action.

H-12.7. All work shall be completed to satisfaction of CGTA.

[Top of the Document](#)

H-13 MANHOLE COVER STUD RENEWAL

H-13.1. Any studs broken or found to be broken during the removal and replacement of all manhole covers by Contractor shall be renewed.

H-13.2. Contractor shall include in bid, a unit cost to renew ten studs.

[Top of the Document](#)

H-14 ENGINE ROOM VENTILATION DUCTING REPAIRS

H-14.1 A section of the starboard main distribution trunk to the auxiliary engine requires replacement.

H-14.2 Prior to the commencement of any and all work, the contractor shall carry out a “Pre-Job Safety Assessment”. and also lock out the starboard main generator supply fan as per Coast Guard ISM safety code Procedures 7.B.V3 2AL-08 & 7.C.1.M S36-01. The contractor shall install /remove locks and tags accordingly during the scope of work. Electrical Officer will assist Contractor in locating locations to perform the lock out but will not perform the actual lock out. Contractor shall supply and install their own locking devices and retain all keys during the scope of this work.



Section of Air Trunk (Flange B)



Section of Air Trunk (Flange A & B)



H-14.3 Contractor shall remove section of air discharge trunk fitted above engines #2 & #3 identified in the photos above. Current arrangement consists of 3 sections. Note: 90 degree section of trunking is stitch welded to the adjacent trunking and will have to be released prior to removal.

H-14.4 Remaining trunking to be properly supported prior to removing flange fasteners.

H-14.5 Removed sections of supply trunk to be moved ashore through the main access hatch fitted in engine room casing.

H-14.6 Using 14 gauge galvanized sheet steel and 1 ¼ inch angle iron, 0.125 inch thickness, contractor is to fabricate 3 new sections of supply trunk using the removed items as a guide. Drawing 229-10 will be made available to Contractor to make copies.

H-14.7 New sections of trunk shall be cleaned and prepared for painting. Contractor shall apply 2 coats of International Inter-prime 539 etching primer and two coats of International Inter-sheen 579, acrylic paint (white) as per manufacturer's instructions.

H-14.8 Contractor shall install sections of trunk using new exhaust gaskets and fasteners. Test shall be conducted by Contractor to see if there are any air leaks at each joint. Any leaks shall be corrected by Contractor at no cost to the owner.

H-14.9 All removals to access and remove sections of trunk are Contractors responsibility. If hand rails are removed, Contractor shall ensure the area is secured against any possible accidents. Contractor must fit the hand rails and any other removals while the new section is being fabricated.

Upon completion, all items removed during the disassembly shall be re-installed as found condition.

H-14.10 Contractor shall supply all crange, lifting hardware, personnel, fall restraint equipment, etc to carry out this work in a safe manner. All Contractors' personnel shall be trained and recently certified safe to work aloft. Contractor shall implement a fall restraint system for all workers working on the catwalk area. This system shall be at least equal to or in excess of the CCG ISM System.

H-14.11 Hot work shall not commence until all areas in the vicinity of hot work have been certified gas free and safe for hot work. Contractor shall determine by testing/inspection and proof of certificate that the area is safe for hot work. A copy of the hot work certificate shall be given to Chief Engineer and a copy posted in a conspicuous location adjacent to the hot work area. All precautions shall be taken to protect all areas and personnel from hot work damage. Contractor is responsible for maintaining an adequate fire watch during the course of all hot work. This shall include providing various applicable extinguishers and extinguishing mediums as necessary. This shall also include any necessary preparations and cleaning in the vicinity of the work area to obtain a gas-free permit.

H-14.12 All work to be completed to the satisfaction of CGTA.

[Top of the Document](#)

H-15 CABIN DECK COVERINGS

H-15.1 Contractor shall remove the existing carpet in Commanding Officer’s Day Cabin and replace with tile and carpet deck coverings. Work shall be in conjunction with Spec Item H-16.

| <u>Cabin #</u> | <u>Carpet Square Footage</u> | <u>Tile Flooring Area</u> | |
|-----------------------|-------------------------------------|----------------------------------|--|
| B-6 | 162 ft ² | 110 ft ² | <u>Total : 272 ft²</u> |

H-15.2 Above areas are approximates and do not account for area lost due to cabin fitments or cutting.

H-15.3 Tile flooring shall be placed at the entrance of Captain’s Day cabin with carpet on the remainder of area.

H-15.4 CCG Dartmouth Technical Workshop staff shall handle removals of computer equipment, secure phone etc. and re-installations of same. Contractor is responsible for disassembly, removal and re-installation of all fixtures, furnishings, cabinets, desk, door and bulkhead trim from the listed cabin to facilitate proper removal of the old carpeting/vinyl polyflor and installation of the new flooring. All items are to be clearly marked prior to dis-assembling as to their location and sequence of assembly. Contractor is responsible to provide dry secure storage for these items until the work is completed.

H-15.5 Contractor is responsible for removal and disposal of all existing deck carpeting/vinyl polyflor and any sub-coat flooring that may have to be removed. All debris to be removed on a daily basis.

H-15.6 Removal and installation (of new) bulkhead base trim material will be required. Trim material is 3 ¾” high, black rubber.

H-15.7 Contractor shall clean and prepare decking to supply and install a skim coat of Dex-O-Tex Sub-Coat #1 underlayment with a VCT flooring. Tiles to be laid from the Port bulkhead to starboard for a distance of approx. 9 feet. Remaining deck area shall be new tight nap carpeting. Rubber capped transition piece, in a blue color, shall be laid to cosmetically dress the tile/carpet joint in a manor as pre-exists in cabin U-15.

H-15.8 Colour and style of carpet and tile flooring shall be selected by CGTA and will be of a shade of blue.

H-15.9 Contractor shall ensure the cabin areas and alleyways are thoroughly cleaned prior to acceptance.

H-15.10 All materials are to be contractor supplied, unless otherwise specified.

H-15.11 All final measurements are the responsibility of Contractor.

H-15.12 All work shall be completed to satisfaction of CGTA.

[Top of the Document](#)

H-16 BOAT & UPPER DECK WINDOW FRAME REPAIRS

H-16.1 The two forward facing window leaks around the frame in the Captain’s Day cabin and several Upper Deck windows. The intent of this item is to remove the window glasses and fabricate a new steel frames. Contractor shall fabricate a new drain catcher tray of stainless steel for each window. Contractor shall remove the drain connection from drain catchers to the bulkheads and install new.

H-16.2 The following windows are identified for Upper Deck:

| <u>Port Side:</u> | <u>Stbd. Side”</u> |
|-----------------------------|-----------------------------|
| U-1 (Quartermaster Station) | U-6 (Quartermaster Station) |
| U-19 | U-15 {2 windows} |
| U-26 | U-24 {2 windows} |
| U-29 | U-41 |
| U-39 | U-49 |
| U-55 | U-52 |

H-16.3 Work on Captain’s Windows shall be scheduled and performed in such a manner as to not conflict with specification item H-15 Captain Cabin Deck Coverings.

H-16.4 Existing Beclawat original sliding windows are approximately 18 inches wide by 26 inches high.

H-16.5 Prior to the commencement of any and all work, Contractor shall issue a Safety Lockout Procedure. Contractor shall install locks and tags accordingly during the scope of work. Contractor shall supply and install their own locking devices and retain all keys during the scope of this work. Contractor is responsible for removal, disassembly of all furniture, and reassembly to gain access to these windows.

H-16.6 Contractor shall implement a fall restraint system for all workers working on the windows. Contractor shall supply all necessary and currently certified fall restraint equipment and devices for all their workers.

- H-16.7** All precautions shall be taken to protect all areas from hot work damage. All hot work shall be carried out as per ISM hot work authorisation with all necessary precautions being taken. Forced portable ventilation with flexible ducting shall be used during and after any hot work or grinding operations to lead any dirt, dust, smoke, etc to the outside of the ship.
- H-16.8** All Cabins shall be adequately covered and protected from dirt, debris, materials, etc during the course of all work.
- H-16.9** All trim work and panels surrounding the windows shall be tagged for identification and removed carefully to prevent scratching and denting. All associated insulation shall be removed.
- H-16.10** Window glass shall be supported at all times and protected from damage while it is out of its frame. Openings shall be covered to prevent the ingress of inclement weather.
- H-16.11** New Steel window frames and SS drain catchers shall be fabricated from the original templates. Drain connections to the forward bulkhead shall be renewed and new fitting welded in the forward bulkhead. Contractor shall fabricate a new steel channels for window sealing strip on both windows.
- H-16.12** Contractor shall quote on cropping out the existing steel window frames, fabricating a new unit, and installing the new frame to suit each window. This shall include drilling and tapping new retainer plate holes and fitting with all new stainless steel fasteners. Contractor shall quote separately the cost for new window frames. A credit shall be given in the event new frames are not required.
- H-16.13** Contractor shall mechanically clean window frame bulkhead from deck to the deckhead to SSPC-SP3 standard.

H-16.14 All new and disturbed areas shall be mechanically cleaned to SSPC-SP3 standard. All steelwork shall be given 2 coats of Amercoat 235, colour buff. Coatings shall be applied to yield 2 – 3 mils (ASTM D1640) DFT per coat and 2 top coats of CLB000/1 Interlac 665 Fire Retardant White, International Paint. Final coat shall be applied to yield 2 mils (ASTM D 1640) DFT per coat. Contractor shall allow sufficient curing time between coats as per the manufacturer's recommendations and instructions.

H-16.15 Windows shall be installed using new contractor supplied gasket materials, springs and marine window sealant on both sides. All insulation, flashing, trim, hardware, etc that was removed to carry out this work shall be put back in good order.

H-16.16 Upon completion of all work, the windows shall be garden hose tested to prove its watertight integrity and witnessed by CGTA.

[Top of the Document](#)

E-1 HEAVY LIFT SUSPENSION ARM REPAIRS

E-1.1 Main heavy lift has two suspension arms located on blocks 13A and 13B. These arms are seized and require overhaul and repair. These suspension arms are to be dismantled, all parts cleaned and inspected. Required repairs shall be carried out and each suspension arm shall be reassembled and refitted, in good order.

E-1.2 The following suspension arms are identified:

Port Side: 13 A



Stbd Side: 13 B



- E-1.3** Contractor shall remove 13A and 13B blocks attached to suspension arms. These blocks shall remain assembled with the cable and placed on the deck. Contractor shall note the position of the block with respect to suspension arms for reassembly and correct orientation. Contractor shall ensure the block pin is matched the block when disassembled.
- E-1.4** Contractor shall remove the respective becket pin and suspension arm pins. Contractor shall label and identify all parts for the respective assembly. Contractor shall be responsible for any hot work / welding during the disassembly and assembly of the components.
- E-1.5** Contractor shall clean all parts, measure all parts and inform CGTA and Chief Mate when parts are ready for inspection. Typed copies of all pin and bushes measurements shall be given the CGTA.
- E-1.6** Contractor shall quote on the fabrication and supply of new pins, locking tabs, and bushes. This shall be quoted separately. If these parts are not required, a credit shall be given. Materials for the pins shall be 4140 steel. Bushes shall be brass.
- E-1.7** Contractor shall remove all grease fittings and prove all grease ways with new grease and new grease fittings shall be installed. Grease fittings shall be as original ones fitted. Contractor shall use an Epic EP Moly grease (Esso Product) .
- E-1.8** All components are to be reassembled in good order. Suspension arms to be proven and witnessed for correct movement by Ship's staff.
- E-1.9** All work to be completed to the satisfaction of the vessel's Mate and CGTA.

[Top of the Document](#)

E-2 HEAVY LIFT BLOCKS (SURVEY)

E-2.1 Blocks # 9, 10A, 10B , 13A and 13B shall be overhauled and repaired. Blocks shall be removed at each block's attachment point (strong point on the A-frame or Boom). These blocks shall be dismantled, all parts cleaned and inspected. Required repairs are to be carried out and each block shall be reassembled and refitted, in good order. Ship crew will de-rig the main boom cables prior to refit and rig the cables after refit. Chief Officer shall assist with identification of blocks to Contractor.

E-2.2 A-Frame Blocks Topping Blocks for the Main Boom are to be overhauled. (Block #9, 10A and 10B). Contractor shall measure lug attachment bore holes. Copies of the measurements shall be given to CGTA. NDT testing of the securing lugs shall be carried out on all the welds. Contractor shall clean the lug attachments to SSPC-SP3. Contractor shall paint the attachment points. (Coatings: for all, Amercoat 235, two coats, in accordance with Ameron application instructions, coating color : buff





E-2.3 Main Boom blocks for slewing (upper compensator blocks) are to be overhauled. (Blocks 13A and 13B). Contractor shall measure lug attachment bore holes. Copies of the measurements shall be given to CGTA. NDT testing of the securing lugs shall be carried out on all the welds. Contractor shall clean the lug attachments to SSPC-SP3. Contractor shall paint the attachment points. (Coatings: for all, Amercoat 235, two coats, in accordance with Ameron application instructions, coating color : buff.



- E-2.4** All components to be opened up, cleaned and measured prior to inspection. Sheave pins shall be removed and swivel arrangements (Stud Eye Head-fitting) shall be disassembled and removed. Bearings removed shall be identified from the sheaves and swivel arrangements. All components are to be cleaned, identified and laid out for TCMS and CCG inspection. Measurements shall be taken of the bores, stud eyes and pins. Blocks shall be inspected by Chief Officer and TCMS prior to reassembly. All measurements shall be given to CGTA. Contractor shall be responsible for the removing and re-installing the locking arrangements for the stud eyes.
- E-2.5** TCMS shall indicate to Contractor any areas on the cheek plates which require NDT testing for inspection purposes. Contractor shall include the cost of this testing in their initial quotation. Areas requiring repair as a result of the NDT testing shall be repaired by PWGSC 1379 adjustment.
- E-2.6** Contractor shall include in quote the cost for testing with certificates of all the blocks. Past Certificates will be available from Chief Officer. Chief Officer shall be present during testing of these blocks.
- E-2.7** Contractor shall include in quotation the cost for all staging, cranes and transportation required to remove, testing and install all the blocks identified in this specification from Contractor's and/or Sub-contractor's facility and the vessel.
- E-2.8** Ship's crew will remove the wires prior to removal and install after completion.
- E-2.9** Bearings identified in blocks # 9, 10A and 10B as Timkin bearings (Part # 3780 – cone and # 3720 –cup and bearing shields Part # 3780/3720AV Nilos Sealing rings , Blocks 13 A and 13B Timkin bearings (Part # 3982– cone and # 3920 –cup and bearing shields Part # 3982/3920AV Nilos Sealing rings.
Contractor shall verify bearing identification during disassembly to ensure correct bearing is used. All bearings and shields shall be replaced by Contractor. Contractor shall machine and supply new pins and nuts for the sheaves and machine and supply the head pins (securing pins) and nuts at the attachment points (Material 4140 Steel).
Contractor shall use existing pins and nuts as reference.

E-2.10 Contractor shall remove and install new grease fittings as per original on the blocks. All grease-lines to be removed from the A-frame blocks to the support landing on the A-frame top for the grease hoses. These grease lines are to be replaced with new lines and fittings and grease ways to be proven clear. Contractor shall grease all fittings on the blocks upon assembly of the components using contractor supplied Esso - EPIC EP moly grease.

E-2.11 Upon completion of all work, each block shall be assembled, tested and installed onboard the vessel. Each stud eye swivel movement shall be verified by Chief Officer. Testing of the blocks shall be witness by TCMSB and Chief Officer. Crown will supply the test weights.

E-2.12 All work to be carried out to the satisfaction of Chief Officer and CGTA.

[Top of the Document](#)

E-3 WHIP WINCH REPAIRS

E-3.1 The support structure and surrounding deck area are badly corroded. Some hold down bolts have failed. This corrosion is to be removed, metal surfaces treated and coated + specific repairs carried out. The base plate of the winch structure is badly corroded and requires fabrication of a doubler plate over the section of the base plate. Ship crew shall removed the existing wire cable from the winch prior to any work carried out.



E-3.2 Whip winch shall be locked out and isolated electrically, by the ship's electrician. Contractor shall electrically and mechanically disconnect the winch. Winch shall be removed, completely with its Base Frame (I Beam) for specific work.

E-3.3 Contractor shall drain the oil from the winch and dispose of it ashore, as per provincial environmental requirements.



E-3.4 The entire stool and complete deck area, extending aft from the winch room bulkhead, between the longitudinal welds approximately 0.5 m. to each side of the winch's footprint and aft to the access and main hatch are to be prepared to SSPC-SP10. Work area will have to be suitably cordoned off and enclosed, in order to grit blast. Thereafter, these surfaces are to be coated with Amercoat 83HS and Amerlock 2 (Pearl Grey) , two coats of 5 mils DFT, in accordance with product technical and application requirements.



E-3.5 All paint on the winch Base Frame, in way of fasteners, chocks and supporting structure is to be prepared to SSPC-SP3, primed and coated as per identified in Paragraph 3. Contractor shall remove the sub frame (I Beam) from the base frame. This separate frame shall be prepared per E-3.4.

- E-3.6** Whip winch shall be inverted and properly supported on the ship's well deck for examination and repair. Contractor shall clean the bottom of base of gearbox and 6 inches up the sides of gearbox to SSPC-SP3. Contractor shall fabricate new steel blank covers as per template of original dimensions of the inspection covers. These covers shall be installed with gaskets after the oil has been removed and prior to any mechanical cleaning on the winch base.
- E-3.7** Contractor shall perform UT thickness testing of 30 shots as identified by Chief Engineer. A printed report of the thickness measurements shall be given to CGTA. Contractor shall quote separately the cost to supply and weld a 3/8 inch doubler plate on the existing gearbox base in way of any corroded sections. This quote shall be credited in the event no doubler plate is required. Approximate plate size is 13" X 70".
- E-3.8** Contractor shall remove and install a new level gauge on the side of gearbox tank.
- E-3.9** Contractor shall coat the disturbed steel to same standards as identified in 3.4.
- E-3.10** Drawing shall be supplied: Pacific Winches Ltd. Dwg. No. 900-400-296D]
- E-3.11** All fasteners securing the winch's base frame and I beam (sub frame) are to be renewed, as per original dimensions and configuration. Fasteners: Hex head, 1-1/8" UNF, Grade 8 capscrews, 3-1/2" Long.
Note: lengths slightly variable, depending on specific location.
- E-3.12** Chocks are to be retained in specific locations. Contractor shall note the location of the chocks during removal. A drawing shall be designed indicating the location of the respective chocks and location. All fastener holes shall be reamed to size. Capscrews/nuts shall be torqued in accordance with specific recommended values. Nuts are to be locked, using second 'lock' nut of half thickness. [As per original arrangement]
- E-3.13** Contractor shall install new gear oil to winch gearbox, approximately 153 liters of Petro-Canada Enduratex EP220 gear oil.

E-3.14 Contractor shall install new gaskets on the inspection covers on gearbox. A RTF (blue) silicone sealant shall be applied to the gaskets. CGTA shall inspect gearing prior to installation of covers and gaskets.

E-3.15 In consideration of specific coating requirements, upon reinstallation of Whip Winch, it is to be electrically reconnected, tested and witnessed by Ship's Staff.

E-3.16 Contractor shall be responsible for all staging and crantage,

E-3.17 All work to be completed to the satisfaction of CGTA.

[Top of the Document](#)

E-4 HELICOPTER HANGAR DRIVE SERVICING

Note: Contractor shall note the tight timeline of this contract. Contractor shall bid and commit sufficient resources to complete all items on time.

DESCRIPTION OF ITEM

The intent of this specification is to provide the necessary instructions for implementation of repairs and replacement of worn or damaged parts and components as found during previous survey of Telescopic Hangar System. The Crown will supply new, Phenolic wear guides Tracks and heaters (GSM) for this work.

CCG will contract separately the FSR services for guidance to Contractor.

SAFTEY WARNING

In order to prevent injury to personnel, all necessary safety procedures shall be followed in accordance with local safety codes during each section of repair, including proper isolation and lock out of system power supply. In addition to Contractors safety procedures all ships safety guidelines shall be strictly adhered to and all work shall be completed to the satisfaction of CGTA.

Telescopic Hangar – Repair Specification

E-4.1 Hangar lighting, traverse drive motor, curtain drive motor and track heaters shall be locked out by contractor with ships staff and isolated in accordance with local safety codes during the course of work.

E-4.2 During the hanger driving servicing, Contractor shall replace a section of light wiring. Contractor shall install a 6 conductor cabtire cable, #12 AWG, approximate length, 30 feet. This section shall start at junction box 4 (trailing) and terminate at junction box 5 (intermediate).

- E-4.3** Hangar lighting, traverse drive motor, curtain drive motor and track heaters must have power cables de-energized, disconnected and tagged for reinstallation.
- E-4.4** The plate-pick up pads item # 1202-17-5, six in total, must be tagged and removed for reinstallation later.
- E-4.5** Lower bar plates item #1200-386-6 twelve in total must be disconnected by removing 60 hex retaining bolts item #1200-733-10. Care must be taken due to presence of corrosion around the bar plates. Once the bar plates are removed the Phenolic wear guides need to be removed and replaced with new item #1200-17-3, this will require the removal and replacement of 60 securing screws item #1200-733-9.
- E-4.6** Hangar intermediate section # 1200-748-3 and the trailing section 1200-748-5 must be positioned and located together inside the fixed section #1200-738-1 to provide adequate open space for section removals. With the use of chain blocks to control movement the lead section is to be guided into the open area of the track. Note: care must be taken not to damage the hangar seals on each section during movements. Once lead section is removed into the open area from intermediate section the four lifting brackets can be installed and then the lead section lifted ashore using a contractor supplied dockside crane. Remaining sections can then each be lifted ashore using the similar procedures as the lead section. All of the hangar sections should be secured at all times using load straps or tag lines to resist wind loads and movement and must be properly secured to prevent any damage. Sections shall be properly blocked and secured on the jetty during the track repairs and protected from damage.
- E-4.7** The traverse drive racks assemblies #1208-115-3 shall be disconnected by removing 162 cap screws #1208-202-36 new (GSM) rack sections shall be installed when the hangar is being reinstalled.
- E-4.8** The 10 pieces of hangar tracks must be unbolted in order to remove the 24 track heaters and then the new track heaters can be installed and connected. Once heaters are properly fitted the hangar tracks shall be reinstalled and aligned there is 100 litres (per side) GSM of Bee's Wax that has to be heated and poured after tracks are laid to prevent water pooling in

the spaces between the pads under the tracks (cavities are created by the pads). All previous items disconnected can then be reinstalled in reverse order as listed above.

Note: Contractor shall be aware that all of the securing bolts shall be removed are badly seized into position, which may require drilling or heat for extraction and replacement with new.

E-4.9 Care shall be taken in the handling of heating elements and the reassembly of Hangar components to prevent damage and all connections made in accordance with the original arrangement.

E-4.10 Area under the tracks shall be grit blasted to near white SPPC-SP10 and have NDT done to ascertain the thickness of the steel. A total of 50 ultrasonic shots shall be performed and reported to the Chief Engineer. Contractor shall include a unit cost for PWGSC adjustment purposes up or down.

E-4.11 Some steel will require replacement in way of the helo tracks. Some of the steel will be above fully furnished accommodation areas and some will be above un-insulated deck areas.

Accommodation Areas

Contractor shall bid on an area above the accommodations of 10 sq. meters and a unit cost per sq. meter for PWGSC adjustment purposes up or down. Contractor shall include in the overall bid price the cost for removal and reinstallation of interference items of any deck head panels, bulkhead panels, electrical wires/conduits, and insulation needed to perform the steel repairs. Contractor shall also include a unit cost per. sq. meter for removals and reinstallations for PWGSC adjustment purposes up or down.

Outside Areas

Contractor shall bid on outside areas of 10 sq. meters and a unit cost per sq. meter for PWGSC adjustment purposes up or down. Contractor shall include in the overall bid price the cost for removal and reinstallation of any electrical wires/conduits or pipes/hangers needed to

perform the steel repairs. Contractor shall also include a unit cost per. sq. meter for removals and reinstallations for PWGSC adjustment purposes up or down.

E-4.12 All areas of steel showing presence of corrosion and new and disturbed work shall have surfaces prepared and then primed and painted in accordance with ships approved paint system.

E-4.13 After reassembly, Telescopic Hangar System shall be functionally tested to the satisfaction of CGTA to demonstrate proper operation.

[Top of the Document](#)

E-5 AVIATION FUEL SYSTEM VALVES

The following valves shall be removed from their locations on the Aviation Fuel Tank, and be dismantled for inspection. **Note:** Some of these valves are located in a cofferdam and as such shall be treated as a confined space and Aviation fuel vapours are very volatile. Contractor should have continuous ventilation and the atmosphere should be closely monitored during valve removals and installation. This work shall be carried out in conjunction with H-5 and H-7

E-5.1

- a) These valves shall be serviced by Mobile Valve in Mt. Uniacke, NS; Phone 902.866.0719.

- b) Contractor is responsible for the transportation costs associated with the inspection of these valves and hoses.
 - i) VACUUM RELIEF VALVE (1.5”) 1 each
 - ii) SERVICE PRESSURE RELIEF VALVE (1.5”) 1 each
 - iii) FULL FIRE ENGULFMENT VALVE (6”) 1 each

NOTE: Valves (i) and (ii) are in-line types with 1.5” BSP male body. They are installed within a pair of flanges on the appropriate pipes adjacent to the top of the Aviation Fuel Tank.

- c) During the period valves are removed from their locations, all openings to the fuel system shall be protected from dirt ingress.

E-5.2 All valves shall be cleaned, and all sealing surfaces checked for wear. Contractor is to supply and install new flange gaskets on all valves. Gaskets shall be ANSI B16-21 C.A.F. with P.T.F.E. envelopes. Quantity required is two each per valve. No substitutions for material will be allowed without the express permission of Chief Engineer.

E-5.3 When valves are reassembled, they shall be reinstalled in their original locations. Prior to installation, the following valves shall be bench tested and adjusted to lift at the indicated pressures:

- | | |
|----------------------------------|----------------------------|
| a) VACUUM RELIEF VALVE | 0.5” HG – on tank |
| b) SERVICE PRESSURE RELIEF VALVE | 12 PSIG – on tank |
| c) FULL FIRE ENGULFMENT VALVE | 15 PSIG on deck AFT |

E-5.4 Helicopter fuelling hose shall be removed and the pipe fittings cap. Helicopter refueling hose shall be pressure tested to 150 PSIG (10.2 Bar) pressure which shall be maintained for a minimum of 1 hour. Hose is to be tested with a liquid medium compatible with “**JET A-1**” aviation fuel. Hose is to be visually examined for defects while under test. Hose is to be removed from the ship to Contractor’s facility for testing purposes, and be reinstalled on completion. Any repairs or replacement to the hose or fittings will be an extra if the hose failed during the test.

E-5.5 Flame arrestor screen on the vent pipe end shall be removed for cleaning and inspection. Care shall be taken not to damage or distort the screen mesh in any manner. Screen elements shall be washed in solvent solution, and be blown through with compressed air on completion to dry them. Mechanical means shall not be used to clean the screen elements. On completion of work, screen shall be reinstalled in good order.

E-5.6 Contractor shall provide original test certificates from Sub-contractor for all valves and the fuel hose. All certificates to state final test pressures.

E-5.7 **NOTE:** Flame arrestor overhangs the stern quarter of the ship. Access to service the flame arrestor screen, Contractor may require a “Genie Boom”.

[Top of the Document](#)

E-6 FIRE PUMP (SURVEY)

E-6.1 Contractor shall open for inspection, clean, measure, and lay out the main fire pump and motor set for TCMS credit. Contractor shall renew all bearings, bushes, wear rings, o-ring and shaft seals.

E-6.2 Contractor shall perform this specification item in the shortest time frame possible as not to leave the vessel without its dedicated fire pump.

E-6.3 Ship's main fire pump is located in Lower engineroom forward of # 3 Main Engine control panel.

E-6.4 Pump is electrically driven and is a single stage vertical centrifugal water pump. Below is the data sheet information.

| Electric Motor | | PUMP | |
|----------------|--------------------|-----------------|-----------|
| Manufacturer | ETATECH Industries | Manufacturer | HAMWORTHY |
| Frame | 326TD2 | Type | D5X3V |
| Type | CF4 | Capacity | 71 m3/Hr |
| Kw | 35 | Head | 84 m |
| Amps | 44 | RPM | 1750 |
| Volt | 600/3/60 | Chesterton Seal | Model |
| RPM | 1755 | | |
| Serial Number | MD2639-1 | Serial Number | 40972-05 |

E-6.5 The electrical motor will be isolated and electrically disconnected by vessel's the Electrical Officer. Motor shall be overhauled as per L-02 Motor Overhaul Spec item.

E-6.6 Contractor shall measure and record the motor Megger reading before and after motor overhaul. Readings are to be given to CGTA. Pump-motor flanges are to be marked to ensure correct reassembly.

E-6.7 Contractor shall isolate the pump piping. The associated suction and discharge piping shall be disconnected, adjacent pipe openings to be examined for corrosion/erosion, and examined for condition and openings blanked.

Blanks shall be of solid material over openings in pipe work and shall be secured against water ingress or from back-feeding from fire pressure main (shore supply). Upon completion of piping isolation, Contractor is required to immediately notify Chief Engineer to verify.

E-6.8 Contractor shall note the balancing weights and their locations when disconnecting the coupling and stub shaft. These weights are to be returned to their original positions after overhaul.

E-6.9 Seal arrangements, and seal cooling water lines shall be let go. Pumps shall be stripped out, cleaned and inspected. Pump shaft and casing shall be examined for corrosion/erosion and wear. All defects shall be brought to the attention of CGTA.

E-6.10 Sealing arrangements shall be opened up, cleaned, inspected, and reassembled in good order. Cooling water to seal line to be reconnected.

E-6.11 The pump shall be reassembled using new bushing, wear & “O” rings, gaskets (GSM), and new shaft seal. The shaft seal is a Chesterton mechanical split type seal Part # **Seal Kit 442-12 / 38M-SPK-CR-CB-S-EP**. Contractor shall be responsible for the supply of shaft seal and all other materials (e.g. gaskets, lubricants, solvents, lint-free cleaning rags).

E-6.12 The pump shall be re-installed, blanks to be removed, and piping reconnected using new gaskets.

E-6.13 Precision alignment shall be checked and adjusted as required using a dial indicator and each coupling reconnected when correct alignment is achieved. (within: 0.002 inches). This alignment shall be verified by CGTA.

E-6.14 Contractor shall functional test Fire pump for 30 minutes to satisfaction of CGTA and TCMS.

[Top of the Document](#)

L-1 GALLEY STOVE CLEANING

L-1.1 Both galley stoves (Garland 10 - Electric Ranges) shall be opened up for degreasing and thoroughly cleaned internally and externally.

This item shall commence late in Project in conjunction with H-6 Ventilation Cleaning and proceed as quickly as possible, to minimize galley shutdown time.

L-1.2 Stoves and stove tops shall be moved as required to permit access for cleaning under and between the units. Contractor shall move the stoves as required for access to cleaning and inspection of components.

L-1.3 Prior to the commencement of any and all work, Contractor shall lock out the stoves as per the Coast Guard ISM Safety Lockout Procedure 7.C.1.M S36-01 safety code. Contractor shall install /remove locks and tags accordingly during the scope of work. Electrical Officer will assist Contractor in locating locations to perform the lock out but will not perform the actual lock out. Contractor shall supply and install their own locking devices and retain all keys during the scope of this work.

L-1.4 Insulation resistance ('Megger') readings shall be taken prior to the commencement of all work with the ship's Electrical Officer in attendance.

L-1.5 All wiring, connections, and insulation shall be inspected. Particular attention shall be paid to burned insulation, loose terminal screws, heating elements and thermostats to ensure proper condition and operation.

L-1.6 Defects arising from this inspection will be covered under PWGSC 1379 action.

L-1.7 Chief Engineer shall be present for a final inspection prior to closing up each unit. Both stoves shall be reassembled in good order and adjustment upon completion of all work.

L-1.8 All work shall be co-ordinated with Chief Engineer and shall be performed so as to provide a minimum disruption to the Galley personnel. Contractor shall quote premium rates applicable to work during weekends and quiet hours (6:00 pm - 6:00 am).

L-1.9 Readings shall be recorded and given to Electrical Officer in a report form upon completion of all work. Upon completion of all work, a second set of insulation readings shall be taken and recorded with Electrical Officer present.

L-1.10 Contractor shall limit the work area to immediate vicinity of galley stoves. Galley shall be left in a clean and tidy condition daily and upon completion of all work.

L-1.11 All work shall be done to the satisfaction of CGTA.

[Top of the Document](#)

L-2 FIRE PUMP MOTOR OVERHAULS

L-2.1 Fire Pump motor shall be overhauled in conjunction with associated specification. The intent of this spec is to describe the work involved for the associated motor overhauls.

L-2.2 Motor data:

a) **Fire Pump Motor**

Mfr: Etatech Industries

Frame 326TD2, Type: CF4

35 KW, 44 Amps, 600 VAC 3 phase 60 Hz

1755 RPM, Serial Number: MD2639-1

L-2.3 Prior to commencement of work, and upon completion of work, Contractor shall take insulation readings and current readings on all phases. A type written copy to be passed over to Chief Engineer.

L-2.4 Prior to the commencement of any and all work, Contractor shall lock out motor. Contractor shall install /remove locks and tags accordingly during the scope of work. Electrical Officer will assist Contractor in locating locations to perform the lock out but will not perform the actual lock out. Contractor shall supply and install their own locking devices and retain all keys during the scope of this work.

L-2.5 Motor shall be disconnected electrically, unbolted from its respective base, and transported to Contractor's facilities for servicing. Contractor shall take care to note the use of any alignment shimming materials.

L-2.6 At Contractor's facilities each motor shall be disassembled for cleaning and inspection. Bearing housings shall be measured for wear. Rotors shall be checked for loose bars and shafts for trueness. All readings shall be recorded and a type written report is to be submitted upon completion of all work. Stators and motor windings shall be chemically washed cleaned and are to be air dried. Motor windings shall be reinsulated with an air-drying varnish compatible with the existing varnish. Motor shall be reassembled with new bearings.

L-2.7 Motor shall be reassembled and reinstalled in its respective locations with new fasteners. Motor / pump sets alignment shall be precision aligned with laser alignment tools and a print out report of initial and final readings achieved.

L-2.8 Upon completion of all work, motor shall be operationally tested with its pump. Vibration readings shall be taken and recorded. Any further balancing shall be carried out in situ.

L-2.9 All materials and equipment shall be contractor supply

[Top of the Document](#)