

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 CCGC WESTPORT REFIT	
Solicitation No. - N° de l'invitation F5561-132571/A	Date 2013-09-18
Client Reference No. - N° de référence du client F5561-13-2571	GETS Ref. No. - N° de réf. de SEAG PW-\$HAL-403-9075
File No. - N° de dossier HAL-3-71143 (403)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-10-09	
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 CCG SAR STATION COAST GUARD CUTTER WESTPORT NOVA SCOTIA B0V1H0 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

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PART 1 - GENERAL INFORMATION

1. Introduction

The bid solicitation is divided into seven parts plus attachments and 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;
- 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, 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, the Insurance Requirements, and any other annexes.

2. Summary

The Contractor must:

- a. carry out the maintenance and alterations of the Department of Fisheries and Oceans vessel CCGC WESTPORT in accordance with the Requirement at Annex A.
- b. carry out any approved unscheduled work not covered in the above paragraph (a).

3. Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

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

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

The 2003 (2013-06-01) Standard Instructions - Goods or Services - Competitive Requirements are incorporated by reference into and form part of the bid solicitation.

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.

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than Five (5) 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.

4. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Nova Scotia.

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

5. Bidders' Conference

N/A

6. Vessel Visit

It is recommended that the Bidder or a representative of the Bidder visit the vessel. Arrangements have been made for a viewing . The site visit will be held on October 3, 2013 starting at 0800 hrs local onboard the vessel at the Government Wharf, Westport, NS. Bidders are requested to communicate with the Contracting Authority two (2) days (October 1, 2013) before the scheduled visit to confirm attendance and provide the name(s) of the person(s) who will attend. 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.

A9038T (2006-06-16)

7. Work Period - Marine

Work must commence and be completed as follows:

Commence: 14 October 2013

Complete: 12 November 2013

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.

D6007T (2007-11-30)

8. Project Schedule

As part of its technical bid, the Bidder must propose its preliminary project schedule, in Gantt chart format. The project schedule must include the Bidder's work breakdown structure, the scheduling of main activities and milestone events, and any potential problem areas involved in completing the Work.

The Bidder's schedule must also provide a target date for each of the following significant events:

- a. Vessel Docking ;
- a. Vessel Undocking ;
- a. Sea Trials.

A0011T (2007-05-25)

9. Vessel Transfer Costs

9.1 The evaluation price must include the cost for transferring the vessel from its home port to the shipyard/ship repair facility where the Work will be performed and the cost of transferring the vessel to its home port following completion of the Work, in accordance with the following:

- a) The Bidder must provide the location of the shipyard/ship repair facility where it proposes to perform the Work together with the applicable vessel transfer cost from the list provided under paragraph 2 of this clause:

Proposed shipyard/ship repair facility: _____

Applicable vessel transfer cost: _____ .

- b) If the list in paragraph 2 of this clause does not provide the shipyard/ship repair location where the Bidder intends to perform the Work, then the Bidder must advise the Contracting Authority, in writing, at least Five (5) calendar days before the bid closing date, of its proposed location for performing the Work.

The Contracting Authority will confirm to the Bidder, in writing, at least Three (3) calendar days before the bid closing date, the location of the shipyard/ship repair and the applicable vessel transfer cost.

A bid that specifies a location for executing the Work which is not on the list of paragraph 2 of this clause, and for which a notification in writing has not been received by the Contracting Authority as required above, will be considered non-responsive.

9.2 List of shipyard/ship repair facilities and applicable vessel transfer costs

Vessel: CCGC WESTPORT

Home port: WESTPORT, Nova Scotia

Transfer costs in the case of vessels transferred using a government delivery crew include the fuel cost at the vessel's most economical speed of transit and for unmanned refits only, crew transportation costs for the delivery crew based on the location of the vessel's home port and the shipyard/ship repair facility.

Crew transportation costs do not include any members of the delivery crew who remain at the shipyard/ship repair facility in order to discharge project responsibilities related to the vessel being transferred.

Transfer costs in the case of vessels transferred unmanned by either commercial towing, railway, highway or other suitable means of transportation must be:

- i) included as part of the Bidder's financial bid in the case where the Bidder is responsible for the transfer; or
- ii) identified as the applicable vessel transfer cost, as given in the list below, in the case when Canada is responsible for the transfer.

Company	City	Transfer Cost
AF Theriault	Methegan, NS	\$ 509.00
Shelburne Ship Repair	Shelburne, NS	\$1580.00
LIFE	Lunenburg, NS	\$4298.00
Abco	Lunenburg, NS	\$4298.00
CME Marine	Sambro, NS	\$2578.00
Aecon Fabco	Pictou, NS	\$5302.00
Samson Boats	Arichat, NS	\$4585.00

A2040T (2008-05-12)

10. Docking Facility Certification

Before contract award, the successful Bidder may be required to demonstrate to the satisfaction of Canada that the certified capacity of the docking facility, including any means or conveyance to remove the vessel from the water, is adequate for the anticipated loading in accordance with the related dry docking plans and other documents detailed in the Contract. The successful Bidder will be notified in writing and will be allowed a reasonable period of time to provide detailed keel block load distribution sketches and blocking stability considerations, along with the supporting calculations to show the adequacy of the proposed docking arrangement.

Before contract award and within Five (5) calendar days of written notification by the Contracting Authority, the successful Bidder must provide current and valid certification of the capacity and condition of the docking facility to be used for the Work. The certification must be provided by a recognized consultant or classification society and must have been issued within the past two years.

Although a dry docking facility may have a total capacity greater than the vessel to be docked, the weight distribution of the vessel may cause individual block loading to be exceeded. Also, while the physical dimensions of a dry docking facility may indicate acceptability for docking of a specific vessel,

other limitations such as spacing of rails on a marine railway, concrete piers of abutments adjoining the dry dock may, preclude the facility from being considered as a possible dry docking site and render the bid non-responsive.

B9006T (2008-05-12)

11. Workers Compensation Certification- Letter of Good Standing

The Bidder must have an account in good standing with the applicable provincial or territorial Workers' Compensation Board.

The Bidder must provide, within Five (5) days following a request from the Contracting Authority, a certificate or letter from the applicable Workers' Compensation Board confirming the Bidder's good standing account. Failure to comply with the request may result in the bid being declared non-responsive.

A0285T (2007-05-25)

12. Welding Certification

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: CSA W47.1-03, Certification of Companies for Fusion Welding of Steel (Minimum Division Level 2.1); and CSA W47.2-M1987(R2003), Certification of Companies for Fusion Welding of Aluminum (Minimum Division Level 2.1).

Before contract award and within Five (5) calendar days of the written request by the Contracting Authority, the successful Bidder must submit evidence demonstrating its certification to the welding standards.

B4075T (2008-05-12)

13. SAAC Manual Clauses

A7035T (2007-05-25) List of Proposed Sub-contractors

A9125T (2007-05-25) Valid Labour Agreement

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

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

Section I: Financial Bid (1 hard copy)

Section II: Certifications (1 hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid. Canada requests that bidders follow the format instructions described below in the preparation of their bid:

(a) use 8.5 x 11 inch (216 mm x 279 mm) paper;

- (b) use a numbering system that corresponds to the bid solicitation.

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

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Financial Bid

- 1.1** Bidders must submit their financial bid in accordance with the Financial Bid Presentation Sheet in Annex "F". The total amount of Applicable Taxes must be shown separately, if applicable.

1.1 SACC Manual Clauses

C0414T (2008-05-12) Vessel Refit, Repair or Docking – Cost
C0417T (2008-05-12) Unscheduled Work and Evaluation Price

Section II: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

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.

A0069T (2007-05-25)

3. Public Bid Opening

A public bid opening will be held in the offices of Public Works and Government Services at 1713 Bedford Row in Halifax, Nova Scotia upon bid closing.

A0017T (2007-05-25)

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and related documentation to be awarded a contract. Canada will declare a bid non-responsive if the required certifications and related documentation 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 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, to provide the related documentation or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

1. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

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

2. Additional Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid but may be submitted afterwards. If any of these required certifications is not completed and 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.

2.1 Supporting Certifications and Technical Deliverable Requirements

- a. **Project Schedule**
- b. **Docking Facility Certification**
- c. **Workers Compensation Certification- Letter of Good Standing**
- d. **Welding Certification**
- e. **List of Proposed Sub-contractors**
- f. **Valid Labour Agreement**

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

1. Security Requirement

There is no security requirement associated with the requirement.

2. Financial Capability

Manual SACC clause A9033T (2012-07-16) Financial Capability

3. 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 C.

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.

G1007T (2011-05-16)

PART 7 - RESULTING CONTRACT CLAUSES

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

1. Requirement

The Contractor must:

- a. carry out the maintenance and alterations of the Department of Fisheries and Oceans vessel CCGC Westport in accordance with the Requirement at Annex A
- b. carry out any approved unscheduled work not covered in the above paragraph (a).

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* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

2.1 General Conditions

2030 (2013-03-21), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

2.2 Supplemental General Conditions

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

3. Term of Contract

1.1 Work Period - Marine

Work must commence and be completed as follows:

Commence: 14 Oct 2013

Complete: 12 November 2013

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.

D6007C (2007-11-30)

4. Authorities

4.1 Contracting Authority

The Contracting Authority for the Contract is:

Theresa Brow

Supply Specialist

Public Works and Government Services Canada

Acquisitions, Marine

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.

4.2 Project Authority

The Technical Authority for the Contract is:

Steven Christian

Canadian Coast Guard

Telephone: (902) 426-6887

E-mail Address: Steven.Christian@dfo-mpo.gc.ca

The Technical Authority named above 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.

A1030C (2007-05-25)

4.3 Contractors contact:

Name:

Tel:
Cell:
Email:

5. Payment

5.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a 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.

C0207C (2011-05-16)

5.2 Limitation of Price

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

6. Invoicing Instructions

The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed. Invoices are to be made out to:

Fisheries and Oceans
Marine Engineering
Maritime Regional Headquarters Building
50 Discovery Drive, level 4
Dartmouth, Nova Scotia
B2Y 4A2

Attention: Diane McNair

The original invoice is to be forwarded for verification to:

Public Works and Government Services Canada
Acquisitions, Marine
P.O. Box 2247, 1713 Bedford Row
Halifax, Nova Scotia
B3J 3C9

Attention: **Theresa Brow**

H5001C (2008-12-12)

7. Project Schedule

The Contractor must provide a detailed project schedule in Gantt chart format to the Contracting Authority and the Project Authority One (1) week after award of Contract. This schedule must highlight the specific dates for the events listed below and all items listed in the Pricing Data Sheet .

The Contractor's schedule must include target dates for each of the following significant events:

- a. Vessel Docking ;
- a. Vessel Undocking ;
- a. Sea Trials .

A0011C (2007-05-25)

8. 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.

B9035C (2008-05-12)

9. Provision of Office Accommodation by the Contractor

For the period of the Contract, the Contractor must provide furnished office accommodation for authorized representatives of Canada as follows:

- a. provide high speed internet (wired or wireless)
- b. provide the temporary use of a black and white printer / scanner (USB)

The above office furnishings and accommodations are to be made available for one (1) representative of Canada only and may not be occupied at all times during the period of the Contract. During periods of vacancy the Contractor may make other uses of the office accommodations as required.

A9060C (2006-06-16)

10. Welding Certification

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, minimum division level 2.1; and
- a. CSA W47.2-M1987 (R2003), Certification for Companies for Fusion Welding of Aluminum, minimum division level 2.1.

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

Before the commencement of any fabrication work, and upon request from the Inspection Authority, the Contractor must provide approved welding procedures and/or a list of welding personnel 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.

B4075C (2008-05-12)

11. Inspection and Acceptance

The Technical Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or representative. Should any report, document, good or service not be in accordance with the requirements of the Statement of Work and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.

D5328C (2007-11-30)

12. Outstanding Work and Acceptance

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-TPSGC 1205, 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.

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;
- a. one copy to the Technical Authority;
- a. one copy to the Contractor.

D5801C (2008-05-12)

13. Vessel Warranty – Refit and Repair

The warranty clause of the general conditions forming part of the Contract is deleted and replaced by the following:

"08 Warranty"

The Contractor, if requested by Canada, must replace or repair at its own expense any finished work, excluding Government Issue incorporated in the Work, which becomes defective or which fails to conform to contract requirements as a result of faulty or inefficient manufacture, material or workmanship.

Despite acceptance of the finished work, and without restricting any other term of the Contract or any condition, warranty or provision imposed by law, the Contractor warrants that the following will be free from all defects and will conform with the requirements of the Contract:

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

Original cost to Canada of the underwater painting work, divided by 365 days and multiplied by the number of days remaining in the warranty period. The resultant sum would represent the "Dollar Credit" due to Canada from the Contractor.

All other painting work for a period of 365 days commencing from the date of acceptance of the Work;

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

the warranty on the work related to any system or equipment not immediately placed in continuous use or service will be for a period of ninety (90) days from the date of acceptance of the vessel;

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.

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.

Refer to Annex "D " for Warranty Defect Claim Procedures and forms.

K0027C (2010-08-16)

14. Warranty – Contractor responsible for all costs

Section 22 entitled Warranty of general conditions 2030 is amended by deleting subsections 3 and 4 in its entirety and replacing it with the following:

The Work or any part of the Work found to be defective or non-conforming will be returned to the Contractor's plant for replacement, repair or making good. However, when in the opinion of Canada it is not expedient to remove the Work from its location, the Contractor must carry out any necessary repair or making good of the Work at that location. In such cases, the Contractor will be responsible for all Costs (including travel and living expenses) incurred in so doing, Canada will not reimburse these Costs.

The Contractor must pay the transportation cost associated with returning the Work or any part of the Work to the Contractor's plant pursuant to subsection 3. The Contractor must also pay the transportation cost associated with forwarding the replacement or returning the Work or part of the Work when rectified to the delivery point specified in the Contract or to another location directed by Canada.

All other provisions of the warranty section remain in effect.

K0030C (2012-07-16)

15. SAAC Manual Clauses

A0285C (2007-05-25) Workers Compensation

A9047C (2008-05-12) Title to Property – Vessel

A9006C (2012-07-16) Defence Contract

B5007C (2010-01-11) Procedures for Design Change or Additional Work

B9014C (2008-05-12) Outstanding Work and Acceptance – Civilian
 B9035C (2008-05-12) Progress Meetings
 A0032C (2011-05-06) Vessel Unanned Refits
 A0290C (2008-05-12) Hazardous Waste – Vessels
 A9055C (2010-08-16) Scrap and Waste Material
 A9066C (2008-05-12) Vessel – Access by Canada

16. Certifications

16.1 Compliance

Compliance with the certifications and related documentation 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, provide the related documentation or if 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.

17. Applicable Laws

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

18. 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);
- (c) the general conditions 2030 (2013-06-27);
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) Annex F, Financial Bid Presentation Sheet;
- (g) Annex C, Insurance Requirements;
- (h) the Contractor's bid dated _____.

19. 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 fulfil 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.

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G1001C (2008-05-12)

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HAL-3-71143

ANNEX “A” - STATEMENT OF WORK

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

Refit Specification - CCGC WESTPORT Specification No. **13-W019-12-1 August 21,2013**

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. Refer to Annex F "Financial Bid Presentation Sheet".

1. Contract Price

a)	Known Work For work as stated in Part 1, Specified in Annex "A" for a FIRM PRICE of:	\$ _____
d)	Taxes Estimated at (__%) of Line a) only	\$ _____
e)	Total Firm Price Taxes Included: For a FIRM PRICE of :	\$ _____

2. Unscheduled Work**2.1 Price Breakdown:**

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

2.2 Pro-rated Prices:

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

2.3 Payment for Unscheduled Work:

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

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

C0902C (2008-12-12)

3 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.

4 Daily Services Fee

In the event of a delay in the performance of the Work that lengthens the Work Period beyond the date specified in this Contract, and if such delay is recognized and agreed upon by the Contracting Authority as being attributable to Canada, Canada agrees to pay the Contractor the daily services fee, described below, for each day of such delay. This fee shall be the sole liability of Canada to the Contractor for the delay.

The firm daily services fee is:

- (a) For a working day on the drydock \$ _____
- (b) For a non-working day on the drydock: \$ _____
- (c) For a working day at the berth: \$ _____
- (d) For a non-working day at the berth: \$ _____

The above fees shall include but not be limited to, all aspects of the following costs: Administrative Support, Production Services, Quality Assurance, Material Support, Planned Maintenance and Ship Services, and all other resources and direct costs needed to maintain the Vessel at the Contractor's facility. These fees are firm and not subject to any additional charges for markup or profit.

ANNEX C - INSURANCE REQUIREMENTS**C1 Ship Repairers' Liability Insurance**

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.

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

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.

Waiver of Subrogation Rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by the 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.

Notice of Cancellation: The Insurer will endeavor to provide the Contracting Authority thirty (30) days written notice of cancellation.

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.

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.

G5001C (2008-05-12)

C2 Commercial General Liability Insurance

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 \$2,000,000 per accident or occurrence and in the annual aggregate.

The Commercial General Liability policy must include the following:

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.

Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.

Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.

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.

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.

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.

Employees and, if applicable, Volunteers must be included as Additional Insured.

Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)

Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.

Notice of Cancellation: The Insurer will endeavor to provide the Contracting Authority thirty (30) days written notice of policy cancellation.

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

G2001C (2008-05-12)

C3 Limitation of Contractor's Liability for Damages to Canada

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.

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 . This limitation of the Contractor's liability does not apply to:

any infringement of intellectual property rights; or

any breach of warranty obligations.

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.

N0001C (2008-05-12)

ANNEX D- WARRANTY DEFECT CLAIM PROCEDURES AND FORMS

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

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 attached and forward the original to the Contractor for review with a copy to the PWGSC contracting Authority. If the PWGSC Contracting or Inspection Authority is unable to support warranty action, the Defect Claim Form will be returned to the originator with a brief justification. (It is to be noted that in the latter instance PWGSC will inform the Contractor of its decision and no further action will be required of the Contractor.

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

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

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

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

d. Defective equipment associated with potential warranty should not normally be dismantled until the contractor's representative has had the opportunity to observe the defect. The necessary work is to

be undertaken through normal repair methods and costs must be segregated as a possible charge against a contractor by PWGSC action.

6. Liability

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

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

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

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

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

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

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.

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File No. - N° du dossier

CCC No./N° CCC - FMS No/ N° VME

F5561-13-2571

HAL-3-71143

APPENDIX 1 TO ANNEX D**Warranty Claim
Réclamation De Garantie**

Vessel Name – Nom de navire	File No. - N° de dossier	Contract No. - N° de contrat
Customer Department – Ministère client	Warranty Claim Serial No. Numéro de série de réclamation de garantie	
Contractor – Entrepreneur	Effect on Vessel Operations Effet sur des opérations de navire Critical – Critique <input type="checkbox"/> Degraded – Dégradé <input type="checkbox"/> Operational - Opérationnel <input type="checkbox"/> Non-Operational - Non-opérationnel <input type="checkbox"/>	
1. Description of Complaint – Description de plainte		
Contact Information – information de contact		
Name – Nom		Tel. No. - N° Tél
Signature – Signature		Date
2. Contractor's Investigative Report – Le rapport investigateur de l'entrepreneur		
3. Contractor's Corrective Action – La Modalité de reprise de l'entrepreneur		
Contractor's Name and Signature - Nom et signature de l'entrepreneur		Date of Corrective Action - Date de modalité de reprise
Client Name and Signature – Nom et signature de client		Date

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

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CCC No./N° CCC - FMS No/ N° VME

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

Signature – Signature

Date

5. Additional Information – Renseignements supplémentaires

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ANNEX E - CODE OF CONDUCT REQUIREMENTS

Failure to provide the following information will render the bid non-responsive.

Complete Legal Name of Supplier: _____

Supplier Address: _____

Supplier PBN: _____

Solicitation Number: F5561-132508/A

List of Directors:

Please provide a list of names of all individuals currently on the Board of Directors of the above company.

Name	Position

Attach additional names on a separate sheet if required.

ANNEX F - FINANCIAL BID PRESENTATION SHEET**Proposed Work Period Location:** _____**1. Evaluation of Price**

a)	Known Work For work as stated in Part 1, specified in Annex "A" and detailed in the attached Pricing Data Sheet for a FIRM PRICE of:	\$ _____
b)	Unscheduled Work Estimated labour hours at a firm Charge-out Labour Rate, including overhead and profit: 50 person hours X \$ _____ per hour for a PRICE of:	\$ _____
c)	Daily Services Fees i) Five (5) working days on drydock X \$ _____ = \$ _____ ii) two (2) non-working days on drydock X \$ _____ = \$ _____ iii) one (1) working day at berth X \$ _____ = \$ _____ (iv) one (1) non-working day at berth X \$ _____ = \$ _____	\$ _____
d)	Vessel Transfer Cost As stated herein.	\$ _____
e)	EVALUATION PRICE Taxes Excluded, [a + b + c + d]: For an EVALUATION PRICE of :	\$ _____

2. Unscheduled Work**2.1 Price Breakdown:**

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

2.2 Pro-rated Prices:

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

2.3 Payment for Unscheduled Work:

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

Number of hours (to be negotiated) x \$ _____, being the Contractor's firm hourly charge-out labour rate which includes overhead and profit, plus net laid-down cost of materials to which will be added a mark-up

of 10 percent, plus Goods and Services Tax or Harmonized Sales Tax, if applicable, calculated at ____ percent of the total cost of material and labour. The firm hourly charge-out labour rate and the material mark-up will remain firm for the term of the Contract and any subsequent amendments.

C0902C (2008-12-12)

3. 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.

4. Daily Services Fee

In the event of a delay in the performance of the Work that lengthens the Work Period beyond the date specified in this Contract, and if such delay is recognized and agreed upon by the Contracting Authority as being attributable to Canada, Canada agrees to pay the Contractor the daily services fee, described below, for each day of such delay. This fee shall be the sole liability of Canada to the Contractor for the delay.

The firm daily services fee is:

- | | | |
|-----|---------------------------------------|---------|
| (a) | For a working day on the drydock | \$_____ |
| (b) | For a non-working day on the drydock: | \$_____ |
| (c) | For a working day at the berth: | \$_____ |
| (d) | For a non-working day at the berth: | \$_____ |

The above fees shall include but not be limited to, all aspects of the following costs: Administrative Support, Production Services, Quality Assurance, Material Support, Planned Maintenance and Ship Services, and all other resources and direct costs needed to maintain the Vessel at the Contractor's facility. These fees are firm and not subject to any additional charges for mark-up or profit.

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File No. - N° du dossier

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APPENDIX 1 TO ANNEX “F”

PRICING DATA SHEET

The Pricing Data sheet will be provided with the minutes of the bidders conference as a Solicitation Amendment and will be titled **Pricing Data Sheet**.



Fisheries and Oceans
Canada

Canadian Coast Guard

Pêches et Océans
Canada

Garde côtière canadienne

CANADIAN COAST GUARD



REFIT SPECIFICATION CCGC WESTPORT



August 21, 2013

WESTPORT, NOVA SCOTIA



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GENERAL NOTES

1. **On-Site Project Officer:** All the specified work, as well as all work arisings, shall be completed to the satisfaction of the On-site Project Officer also known as the Owner's Representative who, unless otherwise advised, shall be the Vessel Engineer of the ship, or his designated representative. Upon completion of each item of the specification, the Chief Engineer shall be notified so that he/she may inspect the work prior to the complete closing up of any work. Failure to give notification does not absolve Contractor of the responsibility of providing Chief Engineer the opportunity to inspect any item. Inspection of any item by the Chief Engineer does not substitute for any required inspection by Transport Canada Marine Safety (TCMS), Public Works and Government Services Canada (PWGSC) or Health Canada (HC).
2. **Sub-Contractors:** All conditions, stipulations etc. listed in the General Notes apply to any Sub-Contractors employed by the Main Contractor to carry out work on any Specification Item.
3. **Schedule:** At the Pre-Refit Meeting, the successful Contractor shall provide a Production Bar Chart or Schedule 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. Contractor shall provide updated Production Schedules to the Chief Engineer and PWGSC Inspector whenever the schedule is revised.
4. **Daily Service Fee:** Contractor shall allow sufficient time to complete all the 'known' work described in this specification. Contractors shall bid the total price of their estimated daily service fees, plus a unit price for adjustment purposes. The Contractor shall provide sufficient personnel, materiel, and equipment resources to complete the specified work, including the allowance for arisings, within the period of the contract. Extra effort required due to the Contractor's failure to maintain his production schedule will not be paid for by Canadian Coast Guard (CCG).
5. **Chemist's Certificates:** Contractor shall supply Chief Engineer 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, duration of certificate and the following air test information: toxic gas level in PPM, % LEL (percentage lower explosive limit) and % O₂ (percentage oxygen). Each certificate must be signed and dated by the marine chemist or qualified person carrying out the test. All certificates shall be renewed as required by the regulations. Contractor and his sub-Contractors are advised that any work

GENERAL NOTES (CONT.)

carried out in confined spaces as defined by the Canada Labour Code (CLC) and relevant provincial legislation must fully comply with all provisions therein.

Contractor and his sub-contractors are advised that any work carried out in confined and / or enclosed spaces as defined by the Canadian Labour Code Part II (CLC), the Marine Occupational Health & Safety Regulations (MOSH) and the relevant provincial legislation shall be fully complied with.

<http://www.tc.gc.ca/MarineSafety/tp/Tp3177/tp3177e.pdf>

Canadian Labour Code <http://laws.justice.gc.ca/en/L-2/index.html>

MOSH <http://laws.justice.gc.ca/en/L-2/SOR-87-183/index.html>

6. **Welding:** Contractor shall be currently certified by the Canadian Welding Bureau in accordance with Standard W47.1-1983 "Certification of Companies for Fusion Welding of Steel Structures," Division 1, 2.1 or 2.2. Where welding is required on aluminium superstructure CCG specification for ALUMINIUM WELDING (TP 9415E) will apply and Contractor shall be qualified to CWB 47.2 for aluminium welding. All personnel performing welding shall be approved by the Canadian Welding Bureau. All sub-contractors shall be currently certified by CWB as above + Division 3. When a sub-contractor is certified to Division 3, then the primary Contractor shall have a certified Quality Assurance Program in place that introduces and maintains proper control of the sub-contractor's performance. Any welding near bearings or electronic equipment shall have its work locally grounded. No welding shall be undertaken on the vessel without the direct permission of the Vessel Engineer.
7. **Electrical:** All electrical installations or renewals shall be in accordance with the latest editions of the following Marine electrical standards:

TP 127E - Ship Safety Electrical Standards

<http://www.tc.gc.ca/marinesafety/tp/tp127/TP127E.pdf>

IEEE Standard 45 - Recommended Practice for Electrical Installation on Shipboard. <http://standards.ieee.org/announcements/45rev.html>

GENERAL NOTES (CONT.)

8. **Hotwork Ventilation and Containment:** During all known work and work arisings that involve hotwork, Contractor shall ensure that all dust, debris, gas and smoke generated by the work is evacuated from the vessel by the most direct method.

Each item that involves hotwork shall have a defined zone which shall be kept sealed off from the rest of the vessel during the complete work period that involves the generation of welding gases, smoke, and grinding dust etc. These

zones shall be indicated in the items contained within the known work package. All extra work arisings that involve hotwork shall have a zone determined using the same logic. The zone shall be limited to the space(s) where the hotwork is being done, boundary areas where fire watches are required, and the access routes between the zone and the exterior of the vessel for workers, welding and cutting equipment and ventilation ductwork.

In areas where occupied accommodations and or workplaces cannot be completely isolated from personal access a double sealed door (air lock) arrangement shall be erected to minimize ingress of the contaminants into occupied areas. A ventilation extraction point shall be located as near as practical to the inside door on the worksite side to reduce the egress into the air lock and subsequently the accommodations and/or workspaces.

All doorways within the affected area that are not being worked or require access for fire watch activities shall be sealed off to prevent all containments from getting in. Passageway branches that connect to the zone shall be sealed off. Contractor shall completely clean all surfaces and fabrics within a compartment that are not suitably protected.

9. **Protection:** Contractor shall provide adequate temporary protection for any equipment or areas affected by his work. Contractor shall take proper precautions to maintain in a proper state of preservation any machinery, equipment, fittings, stores or items of outfit (furnishings, linings, deck coverings, etc.) which might become damaged by exposure, movement of materials, paint, sand, grit or shot blasting, airborne particles from sand, grit or shot blasting, welding, grinding, burning, gouging and painting. Any damage shall be the responsibility of the Contractor to repair or renew.
10. **Auxiliary Services:** Contractor shall include in quotation the costs of any and all transportation, rigging, staging, slinging, cramage, removals, and installations of parts and equipment such as may be required to carry out work.

GENERAL NOTES (CONT.)

11. **Service Conditions:** Unless specified otherwise, all components, materials and installations supplied by or carried out by the Contractor shall be adequate to meet the following service conditions:

In areas that are exposed to the elements:

- outside air temperature of minus (-) 40 °C to plus (+) 35 °C;
- wind velocity of 50 knots;
- water temperature of minus (-) 20 °C to plus (+) 30 °C;
- shock loading of 2.5g horizontal, 1.5g vertical.

All new components, materials and installations within the ship shall be adequate to withstand the specified shock loading accelerations.

12. **Service Conditions:** Unless specified otherwise, all components, materials and installations supplied by or carried out by the Contractor shall be adequate to meet the following service conditions:

In areas that are exposed to the elements:

- outside air temperature of minus (-) 40 °C to plus (+) 35 °C;
- wind velocity of 50 knots;
- water temperature of minus (-) 20 °C to plus (+) 30 °C;
- shock loading of 2.5g horizontal, 1.5g vertical.

All new components, materials and installations within the ship shall be adequate to withstand the specified shock loading accelerations.

13. **Hotwork & Fire Watches:** Any item of work involving the use of heat in its execution requires that the Contractor advises the Chief Engineer prior to starting such heating and upon its completion. Contractor shall provide sufficient suitable fire extinguishers and a fire watch during any such heating and until the work has cooled. The fire watch shall be arranged such that all sides of surfaces being worked on are visible and accessible. Ship's extinguishers shall not be used except in an emergency. Should the Contractor have to use ship's extinguishers in an emergency they shall be recharged and re-certified by a local facility, of CCG's choice, at Contractor's cost. Contractor shall provide suitable fire retardant coverings to protect wire ways, cables, equipment and structure from welding slag, splatter etc.

GENERAL NOTES (CONT.)

14. **Relocations:** Any piping, manholes, parts and/or equipment requiring temporary relocation to carry out specified work, or to gain access, shall be refitted upon completion with new jointing, anti-seize compound, clamps and brackets as applicable (Contractor supply - CFM). All equipment and systems, so disturbed, shall be tested to prove correct function and fluid integrity upon completion. Defects shall be corrected at Contractor's cost. Note: It shall be the Contractor's responsibility to identify, to the on site project Officer, equipment and systems that are tested to verify correct function, prior to being disturbed for required work.
15. **Lighting:** Temporary lighting and/or temporary ventilation required by Contractor to carry out any item of this specification shall be supplied, installed and maintained in safe working condition by the Contractor and removed on completion of the related work. Naked light bulbs or tubes shall not be used as temporary lighting inside the vessel. All lights used in the vessel shall be supplied with approved guards.
16. **Cleanup:** Contractor shall ensure that all spaces, compartments, and areas where work has been carried out, or Shipyard staff and Sub-Contractors has used for transit routes, are left in "as clean a condition as found" when the vessel commenced refit. This includes both internal and external areas of work, as well as any affected adjacent spaces outside the principle areas of work. All rags, debris, and associated garbage generated by the shipyard staff and Sub-Contractors while on board shall be removed to the garbage container(s) each day. Costs associated with the removal of dirt, debris, and garbage shall be included in the Contractor's quote.
17. **Inspection:** Contractor shall be responsible for calling in the services of TCMSB, PWGSC and HC Inspectors when and as required for survey and inspection items. All TCMSB surveyors called in by the Contractor shall be asked to sign-off the Chief Engineer's Inspection Log Book for all items surveyed. Where the approval of Environment Canada (EC) or any other authority is required by law or by work contained in this specification, Contractor shall be responsible for obtaining and keeping a record of these approvals. Three (3) copies of all approvals and records shall be given to the PWGSC inspector.

GENERAL NOTES (CONT.)

18. **Painting:** Unless specified otherwise, replacement and/or disturbed steelwork shall be given a minimum of two (2) coats of marine primer immediately upon completion of work. Contractor shall inform the Chief Engineer of the area being primed so the Chief Engineer can advise the Contractor of the suitable primer to use. Lead-based paints shall not be used. Prior to painting, all new and disturbed steelwork shall be power tool cleaned as a minimum standard of surface preparation. Contractor shall notified the PWGSC Inspector after the first coat of paint is fully cured so that it may be inspected prior to the application of the second coat. Failure to do so shall result in another coat being applied at the Contractor's expense.
19. **Materials & Tools:** All materials, unless otherwise specified, shall be supplied by the Contractor. Contractor to supply all necessary tools and equipment to perform the specified work. Special ship-specific tools, if required, shall be issued by and returned to the Vessel Engineer. Contractor shall be responsible for removing the tools from their stored location aboard the vessel, and returning them and securing them in place when finished. Otherwise, ship's tools and equipment will not be available for Contractor's use.
20. **Reference Material:** On site project Officer may have provided information in this specification and attachments (engineering drawings, pictures, etc.) as guidance information only. All drawings, pictures, dimensions, descriptions, locations, measurements, engineering values, materials, etc. listed or implied shall be verified by Contractor, prior to any work or fabrication commencing. All discrepancies shall be recorded and reported to the onsite Project Officer and PWGSC Inspector as soon as possible. Any changes to the specified work, due to the above, shall be resolved between Contractor and Project Officer prior to work starting.

The overhaul and installation of all machinery and equipment specified herein shall be as per the manufacturers' applicable instructions, drawings and specifications.

GENERAL NOTES (CONT.)

21. **Measurements:** All dimensional measurements shall be taken and recorded in inches. Unless otherwise specified, the dimensions shall be taken and reported in thousandths of an inch (0.000"). All measuring devices shall be described on the submitted reporting sheets. All reported dimensions shall be either typed or printed in a neat legible manner, and shall include the name of the person who took the readings. Contractor shall be responsible to ensure all testing and measurement equipment (mechanical or electronic) required to complete the specified work is calibrated and that calibration certificates for said devices shall be submitted to PWGSC inspector prior to final inspection or witnessing of tests.

All tests results, calibrations, measurements, trials and readings shall be properly tabulated, compiled and three (3) typewritten copies shall be provided; two copies to Owner's Representative and one copy to the PWSC inspector. All test and trials shall be performed to the satisfaction of the Owner's representatives and TCMSB inspector.

22. **Co-operation:** During the period that the ship is in refit, members of the ship's complement, Coast Guard technical staff, and service specialists may be carrying out repairs to, maintenance of, or modifications of various ships' equipment not covered in this specification. The Contractor shall not deny access to the vessel to these persons. Every effort shall be taken to ensure that this Coast Guard controlled work will not interfere or conflict with that being carried out by the Contractor.

23. **Fire Safety Systems:** Whenever any work is being carried out involving the ship's fire fighting or fire detecting system, it shall be done in such a way as to leave the vessel and all persons aboard with adequate protection against fire at all times. This may be 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 Chief Engineer.

Note: Contractor shall notify Chief Engineer prior to deactivation and upon reactivation of fire fighting and/or fire detecting systems.

24. **Smoking:** The Public Service Smoking Policy forbids smoking in Government ships in all areas inside the ship where shipyard personnel will be working. Contractor shall inform workers of this policy and ensure that it is complied with.

25. **Access:** The following areas are out of bounds to Contractor's personnel except to perform work as required by the specifications: all cabins, offices, workshops, Wheelhouse, Control Room, public washrooms, Officers' and Crew's Messes and Lounges. Contractors shall ensure that no workers bring meals onboard the ship.

26. **Dockside Cleanup:** Contractor shall be responsible for the clean-up of adjacent dock areas used by his personnel and/or equipment during the contracted work. Clean-up shall include, but not be limited to, the following:

- a) Removal of all dirt, grit and debris;
- b) Removal of all staging, containers and equipment;
- c) Immediate cleanup and legal disposal of any leaked oils, solvents or other hazardous liquids.

Additional GENERAL NOTES

- I. The CCGC Westport is a 52' "Arun Class" Coast Guard Search and Rescue (S.A.R.) lifeboat.
- II. Vessel particulars:
- | | |
|-----------------|-------------------------|
| Vessel Location | Westport, Nova Scotia |
| Hull # | 110 |
| Year Built | 1996 |
| Yard | Hike Metal Products |
| Engines | 3408 Caterpillar Diesel |
| | Port s/n 8rg00342 |
| | Stbd s/n 8rg00343 |
| Gearboxes | Twin Disc MG5141 |
| Length Overall | 15.773 Metres |
| Breadth Molded | 5.208 Metres |
| Depth Molded | 2.045 Metres |
| Draft | 1.356 Metres |
- III. New or disturbed joints (i.e. flanged) shall be secured using new stainless steel (SS) bolts and new stainless steel locking nuts. All stainless steel flanges shall be bonded through their bolting arrangement. Dissimilar metal flanges, piping, or valves shall be fully isolated from each other using a non conducting gasket material. When adding a dissimilar metal attachment between two similar metal flanges/piping, a bonding strip shall be attached between the two similar metals (do not bond to dissimilar metal). Bonding straps shall be made from the similar metal to which they are bonding to.
- IV. Contractor shall use industry approved rigging and slinging procedures and certified slinging equipment.
- V. The Contractor shall be responsible for identifying a suitable lifting point, on the mast, which is capable of supporting its weight, while it is being lowered and raised. The Contractor shall be responsible for any damages caused during the lifting and lowering of the mast.

ADDITIONAL INFORMATION TO GENERAL NOTES

- VI.** Contractor shall raise and lower the mast by attaching the lifting gear to the main mast only. Under no circumstances is the mast to be lowered or raised using attached brackets, plating, strengthening, or any similar structures unless previously approved by the Owners Representative.
- VII.** The vessel will have a height of 8.25 meters from the bottom of its keel to the highest point, once the mast is lowered.
- VIII.** Contractor shall take note that items in this specification are not detailed (i.e. piping, electrical, metal work, etc.) and require viewing in order to bid. Although not mandatory it is strongly recommended that the Contractor arrange a site visit to examine the CCGC WESTPORT located at the Canadian Coast Guard (CCG) SAR Station in Westport, Nova Scotia prior to submitting a bid. Bidders who do not view the vessel in order to determine the scope of work shall be evaluated as if they had attended the site visit and are fully aware of the vessels existing condition prior to the refit.
- IX.** Contractor shall contact The Canadian Coast Guard Integrated Technical Services Marine Engineering Project Officer Steven Christian, prior to any site visit, by calling (902) 426-6887. The Project Officer will arrange and confirm vessel location and time of viewing.

HD-01 SERVICES

Contractor is responsible for additional connections required when moving the vessel between dry-dock and alongside berth at their premises. Services are required for the full refit/dry-dock period. Each item shall be priced separately.

The Contractor shall quote a global price and daily rates for all services supplied to the vessel during the dry-docking period for adjustment purposes.

1. Electrical Power

- 1.1 Shore power facilities shall be supplied and installed on the vessel using a single 100 amp source with CFM cables and fittings. The vessel requires one (1): 100 amp, 240 VAC, 60 hz connection. Contractor shall quote a 4000 Kilowatt hour (KWH) flat rate for power connection for the refit period. Contractor shall provide a unit cost per day for power connection for prorated adjustments.
- 1.2 A ground cable shall be attached to the vessel's hull and the Contractor shall ensure compliance as per the Transport Canada Marine Safety Bulletin – “Grounding Safety in Drydock”.
<http://www.tc.gc.ca/MarineSafety/bulletins/1989/06-eng.htm>
- 1.3 Contractor shall indicate in their bid how they propose to track vessel kwh usage. Contractor shall not use the vessel's power supply ie; Inverters, converters, generator.

2. Gangways

- 2.1 Contractor shall supply and erect a gangway, complete with safety nets and guard rails as per Provincial regulations. Gangway to land on main deck aft and shall be illuminated during the dark hours when work is being conducted.

Reference web site;
<http://www.gov.ns.ca/lwd/healthandsafety/docs/FishSafe.pdf>
- 2.2 Any movement of the gangway for the convenience of the Contractor shall be at the expense of the Contractor.

HD-01 SERVICES (CONT.)

3. Garbage Removal

- 3.1 All garbage containers (vessel's waste baskets or Contractor supplied containers) shall be emptied out on a daily basis. Contractor shall remove own daily garbage from work areas of the vessel. Cost shall be included in quote.
- 3.2 Contractor to ensure all spaces, compartments and areas of the vessel, external and internal, are left in as clean a condition as found. Removing dirt, debris, and associated materials shall be included in their bid.

4. Berthing

- 4.1 Berthing and mooring facilities shall be provided in accordance to the Fleet Safety Manual DFO 5737 as provided in the attached safety annex.
- 4.2 During refit, while not dry-docked; vessel shall be berthed at Contractor's wharf. There shall be sufficient water beneath the vessel that it shall not touch bottom at any time (upright and afloat).
- 4.3 Shipyard is responsible for all movements of the vessel during the refit period; including arrangements and costs of linehandlers, tugs, pilots, initial tying up, any movement of the vessel during refit and letting go of lines from Contractor's wharf on vessel departure from yard upon completion of refit.

5. Shelter / Enclosure

- 5.1 The Contractor shall provide a protective shelter (enclosed heated building) around the vessel prior to any work commencing, the shelter shall remain for the entire refit period. With the mast lowered, the vessel will have a height (bottom of keel to highest point) of approximately 8.3 meters. The shelter shall be heated and shall enclose all external work areas around the entire vessel including the superstructure and mast. The temperature in the protective shelter/building shall not drop to less than 15 degrees Celsius during the refit period while the vessel is sheltered.
- 5.2 The shelter will provide full protection while work is performed during inclement weather. The shelter will also prevent unwanted debris, particles and/or materials (i.e. grinding debris, sponge blast, paint chips, etc) from leaving the immediate work area and provide the Contractor with the ability to recover the above and dispose of them in an approved manner.

HD-01 SERVICES (CONT.)

6. Sea Trial

- 6.1 Bidders shall include a “3-hour” sea trial in their bid price. The vessel shall be operated by CCG personell under the Contractor’s direction. The aim of the sea trial shall be to prove the safe and correct function of all systems and equipment that have been worked on, added or disturbed as part of the refit.

7. Quality Control

- 7.1 Contractor shall have a proven quality assurance program in place or is presently working on a system that may meet CSA series of Quality assurance program standards. This requirement will provide the Owner’s representative and PWGSC inspector with a concise record of all pertinent information requested during the vessel refit.
- 7.2 Contractor shall provide a typewritten report of all test, trials, calibrations, measurements, etc. taken, whether identified or implied in this specification. Contractor shall compile the individual readings for each specification item into a report with copies of the workers original notes and provide a copy to the Owner’s representative and the PWGSC inspector upon completion of the refit.
- 7.3 The final report is not meant to be a formal document, but rather a concise record of all reading taken. If the specification item does not require any

HD-02 DOCKING / UNDOCKING

1. Contractor shall dock the vessel and allow sufficient service days to perform both the work described in this specification as well as a margin of time to cover work arising. Contractor shall quote a unit cost per service day. Contractor shall prepare blocks and necessary shoring to maintain true alignment of the vessel's hull and machinery throughout the dry-docking period. Upon completion of all specified work the Contractor shall undock the vessel.
2. A docking plan is available on board the vessel or from Integrated Technical Services, Marine Engineering. The Contractor is responsible for ensuring all loaned drawings are returned, in their original condition, upon completion of work.
3. Vessel Particulars:

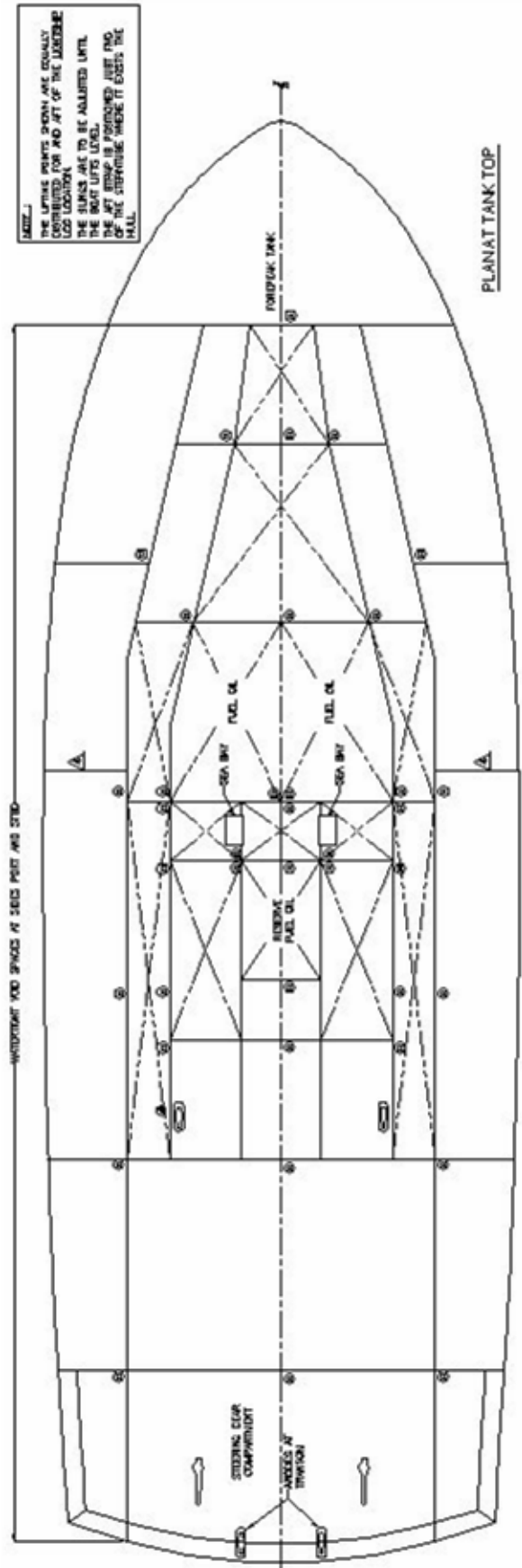
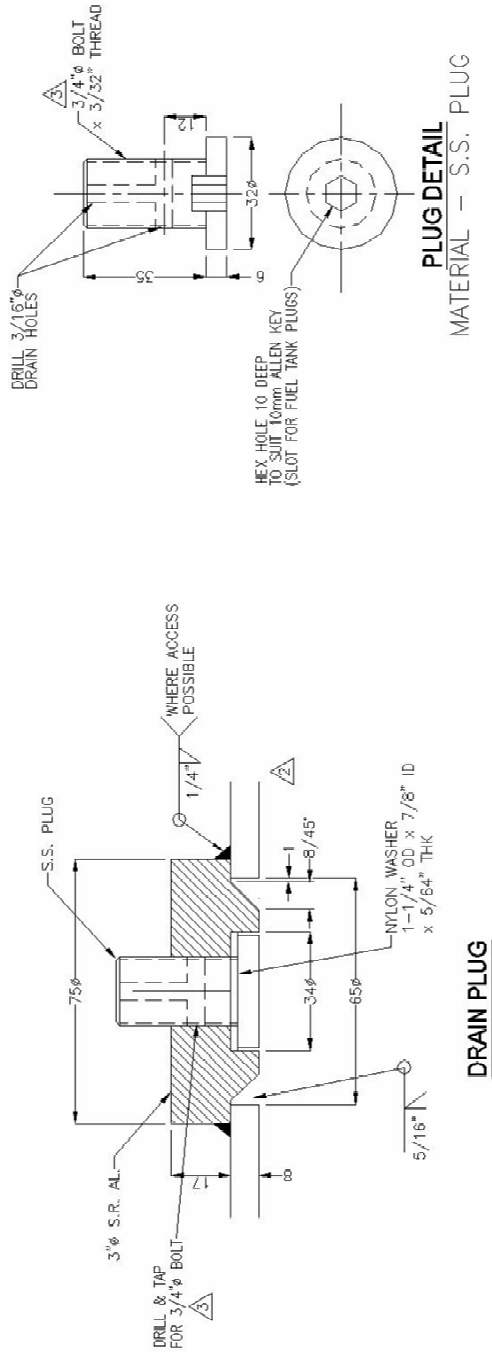
Length O.A.	15.773 Metres
Breadth Molded	5.208 Metres
Draft	1.356 Metres
Fuel Capacity	3028 Litres
Hull construction	Aluminum
Electrical System	24 VDC, 12 VDC sub system
	240 VAC Shore Connection
4. The vessel shall be docked so that all docking plugs, transducers, anodes and sea inlet grids are clear and accessible. Contractor shall ensure adequate clearance below the keel for performing work specified and shall advise in their bid, the minimum clearance expected. If any hull fittings are covered, the Contractor is responsible for all labour and materials required for making alternative arrangements for draining tanks, removal of docking plugs, blasting/painting of hull and/or moving blocks to gain access to areas of specified work.
5. The Contractor is responsible for the transfer of the vessel from its pre-docking berth or location onto its docking blocks. Likewise, Contractor is responsible for safe transfer of the vessel from blocks to berth upon re-floating of the vessel. Vessel's crew will not be available to assist with these operations nor will ships machinery. While at berth there shall be sufficient water beneath the vessel that it shall not touch bottom at any time, upright and afloat.

HD-02 DOCKING / UNDOCKING (CONT.)

6. Within four (4) hours of docking, cleaning of the under water hull by high pressure fresh water washing shall commence. A high pressure wash between 3000 and 5000 pounds per square inch (psi) is required to remove all marine growth. Following cleaning, a preliminary visual inspection shall be undertaken in the presence of the Owner's representative. Prior to commencing hydro blasting, all hull mounted equipment and openings, excluding sea bays shall be fully protected. The Contractor shall adhere to the Fisheries Protection Act with reference to reclaiming water used to clean the hull.
7. The Contractor shall give the Owner's representative a minimum of four (4) hours notice before adding/removing liquids from any vessel tanks. Similarly, the Owner's representative will advise the Contractor of any intended onboard fluid transfers.
8. Upon completion of all specified work and a minimum of 24 hours notice to the Owner's representative, the vessel shall be re-floated.
9. Any contamination of the vessel's hull by materials, fluids and debris present on the dock shall be cleaned after the vessel is re-floated and clear of the dock. Cost shall be at the Contractor's expense and to the satisfaction of the Owner's representative.

HD-02 DOCKING / UNDOCKING (CONT.)

Figure HD-02-1 DOCKING PLAN



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[illegible]

HD-03 PAINTING

Touch-Up Specification

ARUN Class Vessel Square Areas

Wetted Hull	85m²
Above Waterline to Deck	65m²
Wheel House	43m²
Flying Bridge	10m²
Main Deck	42m²

The Contractor shall prepare and apply the coating system in accordance with the manufacturer's manuals and recommendations. As part of the Contractor's Q&A process, the following information shall be recorded for all painted areas:

- Provide a list of batch numbers with correspondent dates of manufacture.
- Record the quantity and type of any solvent added.
- Measure and record the ambient conditions.
- Record details of spray tips and pressures.
- WFT gauge readings to be taken on a regular basis during application.
- Using a calibrated DFT gauge, fifteen (15) measurements per 100 square feet are to be taken and recorded. Upon agreement of consistency with the Owner, fifteen (15) measurements per 1000 square feet are to be taken and recorded.
- All recorded information is to be typewritten and three (3) copies are to be given to the Owner.
- If application is completed by roller and brush, multiple coats will be needed.

TOPSIDE/SUPERSTRUCTURE

1. Topside area (above waterline) is to be cleaned of all loose scale, salt, grease, etc. All debris recovered and disposed of in an approved manner (i.e. Provincial or Federal Regulations/Acts). Copies of invoices detailing disposal shall be provided to the Owner.
2. Contractor shall quote on repairing **2m²** of failed superstructure/flying bridge coating and provide a unit cost/m² for painting. Contractor shall clean and prepare the superstructure and flying bridge for re-coating. These areas will here in after be referred to as "bare areas." The price will be adjusted depending on

the actual amount of coating applied. Spent or flaked coating to be removed with no undue or excessive damage to the underlying coating.

3. Contractor shall note that all areas painted in black, requiring new paint, shall be coated with flat black marine enamel. (Excluding topside stripes they shall match existing topside sheen).

HD-03 PAINTING

WATERLINE/DECK

4. Contractor shall quote on repairing **2-m²** of failed waterline to deck coating and provide a unit cost/m² for painting. The Contractor shall clean and prepare the waterline to deck for re-coating. These areas will here in after be referred to as "bare areas." The price will be adjusted depending on the actual amount of coating applied. Spent and/or flaked Intersheen (Interlac) coating to be removed with no undue or excessive damage to the underlying coating.

5. Superstructure (Wheelhouse & Flying Bridge)

Bare Areas – Interprime 198 CPA098 Grey @ 2-3mils DFT

Spot Coat – Interlac 665 CLB000 White @ 2-3mils DFT

Top Coat – Interlac 665 CLB000 White @ 2-3mils DFT

Topsides

Bare Areas – Interprime 198 CPA098 Grey @ 2-3mils DFT

Spot Coat – Interlac 665 Coast Guard Red 509-102 @ 2mils DFT

Top Coat – Interlac 665 Coast Guard Red 509-102 @ 2mils DFT

White Lettering – Interlac 665 CLB000 White @ 2mils DFT

Black Stripes – Interlac 665 CLY999 Black @ 2mils DFT

6. The Owner shall supply all vessel decals; the Contractor shall apply the new decals as per their original location.

Some vessels will be using the Intersheen 579 as a Top Coat, rather than the Interlac 665. In these cases the Bare Areas will still be using the Interprime 198 CPA098 Grey Primer.

UNDERWATER HULL

7. All underwater hull surfaces including rudder, sea suction inlets, overboard outlets, and sea bays are to be cleaned of all loose scale, salts, and marine growth. This work is to be carried out immediately on dry docking using a high pressure, fresh water wash. Pressure washing equipment shall be adjusted to no less than 3000 psi, and no greater than 5000 psi operating pressure.
8. The Contractor shall assume that the wetted hull area is fouled with shell and weed growth. All such surface contaminates and spent antifouling coating shall be removed with no undue or excessive damage to the underlying coating. Copies of invoices detailing disposal shall be provided to the Owner and the PWGSC inspector.

HD-03 PAINTING (Continued)

9. It is estimated that 10m² of the underwater hull-coating system has failed. These areas will here in after be referred to as "bare areas." Contractor to bid on repairing **10m²**. The area is to be prepared and coated as follows: all bare areas are to be solvent cleaned SSPC-SP-1 and surface to be etched chemically with C-Prep B10-degreaser or suitable substitution. Edges to be feathered back (smooth finish) to sound existing coating. The Owner shall witness the point at which sound existing coating is obtained.

If satisfactory feathering cannot be achieved by solvent cleaning and/or chemical etching, feathering is to be completed by other suitable means. The end result is to be tight and sound existing coating with no loose or lifting material around periphery or bare areas.

10. All bare areas, after proper preparation as witnessed by the Owner, are to be coated with one coat of Intershield 300 (bronze) applied at 5.9mils (5mils) dry (9.8mils wet). This is to be followed by one coat of the Tie Coast Intergard 263 FAJ034/A (light grey) applied at 5.0mils (4mils) dry (8.8mils wet) over the entire wetted hull. After coating has properly set ("thumb print soft"- Thumb print is only needed if you are over coating the 300 without the Tie Coat), two coats of Trilux

II (red) Top Coat [at 2.0mils (3mils) dry (3.9mils wet) each coat] shall be applied to the wetted hull area. Initial Trilux II coating shall have a slight contrast to the final coat (Trilux II only comes in red, black, and blue so you could have the first coat in black and the second coat in red if you'd like). The Contractor shall adhere to the manufacturer's specifications and recommendations for applying the above coatings.

11. The inside of the sea bays (sea wells) and underwater grids are to be treated as per underwater hull.

12. The Contractor shall plug all deck openings and discharges as well as taking other measures necessary to prevent any liquids from contaminating areas being prepared or coated. The Contractor shall also take measures to ensure no damage, unnecessary cleaning or any unnecessary repairs from either the hull preparation process or coating applications.

HD-03 PAINTING (continued)

13. Measures shall be taken to ensure that surfaces and equipment other than those specified are not coated by over spray and that any inlets or discharges in the shell will not be blocked by the coating.
14. Deck machinery and other equipment susceptible to damage by coating material shall be protected. All portholes, hull doors, freeing ports, hull openings, anodes, transducers, propeller and shaft and rudder stocks shall be covered by suitable materials to prevent damage or entry of foreign materials when sandblasting, grinding or painting is in progress.

DECKING

15. Contractor shall quote on renewing **5m²** of coating with Contractor-supplied non-skid Amercoat 138 (formerly Devgrip 138). Cost shall include: blasting, priming, cleaning, materials, consumables, etc. Copies of invoices detailing paint disposal shall be provided to the Owner.

Decks

Bare Areas – Intershield 300 Bronze @ 5mils DFT

Spot Coat – Intershield 6GV to match existing profile of the non-skid

Full overcoat to match existing colour.

16. The Contractor shall strictly adhere to the manufacturer's specification sheets in relation to storage, preparation, application, etc. of the paint system described in this specification. Any requirement of variance from the manufacturer's instructions is to be approved by the Owner prior to proceeding. Thinning of the coatings specified is not normally required and/or recommended. Any requirement to thin these coatings is to be done so only in the presence of the product manufacturer's representative. Arranging for, and any and all costs associated with, a coating manufacturer's representative on sight shall be the responsibility of the Contractor.

NOTE TO THE CONTRACTOR:

Applicable to all coating systems within this specification: International Paint (existing coating) shall be used except where Ameron non-skid coating is addressed in section #11 or if an approval for an alternative coating is obtained from the Owner in writing. The Contractor shall adhere to the manufacturer's instructions in regard to the application of each coating with relation to humidity, temperature, mixing, and application. (International 6GV is compatible with the Ameron coating for touch up areas).

HD-03 PAINTING (continued)

100% Re-Coat Specification – If deemed necessary by the Owner at docking Superstructure (Wheelhouse & Flying Bridge)

Full Coat – Intershield 300 Bronze ENA300 @ 5-6mils DFT

Full Coat – Interthane 990 White @ 2-3mils DFT

Topsides

Full Coat – Intershield 300 Bronze ENA300 @ 5-6mils DFT

Full Coat – Interthane 990 Red RAL3000 @ 2-3mils DFT

White Lettering – Interthane 990 White @ @ 2-3mils DFT

Black Stripes – Interthane 990 Black @ 2-3mils DFT

Underwater Hull

Full Coat – Intershield 300 Bronze ENA300 @ 5mils DFT

Full Coat – Intergard 263 FAJ034 Light Grey @ 4mils DFT

Full Coat – Trilux II Red @ 3mils DFT

Full Coat – Trilux II Red @ 3mils DFT

Decks

Full Coat – Intershield 300 Bronze ENA300 @ 5mils DFT

Full Coat – Intersheild 6GV @ 30-40mils DFT

A full coat of Interthane 990 to achieve the deck grey colour

Paint application dry film mils are obtained by a spray application. If a brush and roller application is chosen, the Contractor should be aware that multiple coats will have to be applied to achieve the recommended film thickness.

HD-04 ANODES

1. Contractor and the Owner's representative are to inspect anodes after the vessel is washed. Contractor and vessel representative are to identify ones or all to be replaced. Contractor to bid on replacing all anodes listed below in item 2. Any not required or additional straps or identified repairs shall be covered by 1379 action.

Contractor shall bid on replacing:

Ten (10) hull / transom 10kg zinc anodes with their securing straps and prepare the backing plates for painting as per spec number HD-03 above

Contractor shall bid on replacing 4 collar type anodes Fig HD-04-2 for the port and starboard shafts.

Contractor shall bid on replacing 4 new rudder 2.25 kg bolt on anodes with aluminum straps as per below picture HD-04-3

2. Contractor shall if required use the existing bolting pattern and existing hardware.
3. Contractor shall if required prepare and paint the hull and transom anode backing plates as per section HD-03 painting.
4. Contractor shall ensure that the bolting straps do not project past the backing plate to prevent ropes from fetching up. It is preferred that the hull anodes have a slight angle fore and aft to allow for rope to easily slide off.
5. Acceptance shall be based on the satisfaction of the Owner's representative.

HD-04 ANODES (CONT.)

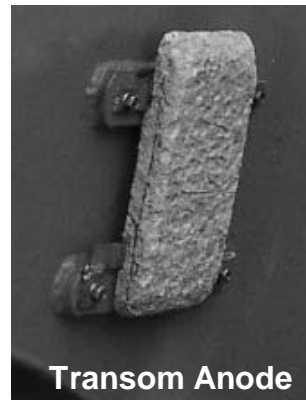
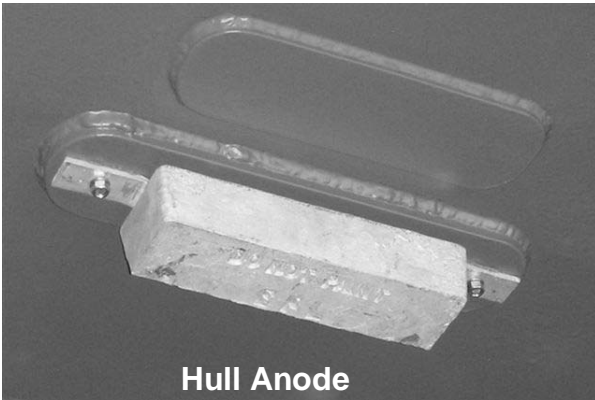


Figure HD-04-1 (10) Kg Zinc Hull / Transom anodes



Figure HD-04-2 Collar type shaft anode



Figure HD-04-3 Rudder anode

H-01 PROPELLERS / SPUR CUTTERS

1. The Contractor and the Vessel Representative shall visually examine the port and starboard propellers for damage. Any repair work identified shall be completed through 1379 action. Upon approval and completion of identified repairs, the Contractor shall issue a copy of the test certificate to the Vessel Representative and PWGSC Contracting Officer for each propeller. Acceptance based on proper operation during sea trials.
2. The Contractor and the Vessel Representative shall visually examine the port and starboard spur cutters for damage (missing cutters, bolts, alignment, etc.). Contractor shall prepare a typewritten cost estimate for any repairs identified during the inspection, one copy each to the Vessel Representative and PWGSC Contracting Officer. Any repair work identified shall be completed through 1379 action. Acceptance based on proper operation during sea trials.

Figure H-01 Port and Starboard view of propellers



(A)



(B)

H-02 TRIM TAB SYSTEM

1. Contractor shall functionally test the port and starboard trim tabs prior to drydocking in the presence of the Owner's Representative.
2. Contractor shall visually inspect the exterior areas of the port and starboard trim tabs for other mechanical wear (linkages, pins, indicator cables, etc.) when the vessel is drydocked, in the presence of the Owner's Representative. Contractor to remove the Trim Tab cylinders and inspect and overhaul as required.
3. Contractor shall prepare a typewritten report of their finding including all necessary repairs and associated costs. A copy shall be given to the Owner's Representative and the PWGSC Contracting Officer. Repairs not addressed in this specification item shall be done through 1379 action.
4. Contractor shall remove all hydraulic AW32 fluid from the trim tab system, including the holding tank, lines, hoses and valve blocks in the steering flat. The complete system shall be drained of oil flushed with CFM hydraulic flush fluid and cleaned. Note when full the system contains 8 litres.
5. Contractor shall supply and install new AW 32 hydraulic fluid for the trim tab (Hypro Marine) system, using manufacturers suggested fluid. Contractor shall overhaul trim tab rams Port and Starboard. Contractor shall supply and install new seals on the Ram System. Contractor shall perform a functional test on the system during the sea trial period in the presence of the Owner's Representative.
6. Acceptance shall be based on the system functioning as per manufacturer's specification and to the satisfaction of the Owner's Representative.



Figure H-02-1 Trim tab starboard side

H-03 RUDDERS (SURVEY ITEM)

1. Contractor shall contact the local TCMSB office and arrange for their inspector to inspect the two rudders as per the vessels Division 3 inspection report.
2. Contractor shall erect all necessary staging and rigging / rigging points necessary to work on both rudders. Upon completion of work identified below, contractor shall remove all staging and rigging.
3. Contractor shall visually inspect the port and starboard rudders for damage (dents, chips, paint flaking, etc.) in the presence of the Owner's Representative prior to any repair work commencing. Contractor is responsible for all removals pertaining to the rudder repairs. Repairs to the rudders shall be through 1379 action.
4. Contractor shall remove both rudders at their jumping collar. Contractor in consultation with the Owner's Representative, TCMSB inspector and based on the wear down reading shall determine whether or not to remove the thordon bearings. Contractor shall provide a cost in their quote for the thordon bearing removals and installation of GSM thordon bearings. Contractor shall follow manufacturer's recommendation for installation and verify all measurements before installing the new bearings. Completion of work to be to the satisfaction of TCMSB marine surveyor the Owner's Representative.

1 Upper shaft bearing

Dommel (2 ¾ inch x 3 ⅜ inch) press fit with housing
Figure ED-02-1, ED-02-5 and ED-02-6

2 Rudder trunk bearing

Hornad (3 ¼ inch x 4 ¼ inch) secured in trunk
Figure E-03-1 and E-03-2

THORDON BEARINGS :

BEARINGS MACHINED TO FOLLOWING SPECIFICATIONS :

CODE NAME	SIZE, I.D. x O.D.	MACHINED SIZE, I.D. x O.D.	LENGTH
SXL (TOP)	2-3/4" x 3-3/8"	2.804"/2.809" x 3.394"/3.399"	100mm
SXL (BTM)	3-1/4" x 4-1/4"	3.315"/3.320" x 4.273"/4.278"	160mm

H-03 RUDDERS (SURVEY ITEM CONT.)

5. Contractor shall clearly identify each rudder's fitted bolts and nuts with respect to their original location prior to removal. Contractor shall prepare (cleaning, blasting, etching) both rudders for painting as per HD-04 Painting for Underwater Hull. Upon completion of all work identified in this section Contractor shall re-install both rudders. All fitted bolts and nuts shall be reinstalled to their original locations upon re-assembly. Contractor shall supply and spot weld stainless steel locking wire across the 4 sets of 3 fitted bolts to prevent the bolts from loosening after re-installation, refer to figure HD-07-3.
6. Acceptance shall be based on the approval of TCMSB inspector and to the satisfaction of the Owner's Representative.



Figure H-03-1 Rudder – with view of rudder stock

H-03 RUDDERS (SURVEY ITEM CONT.)

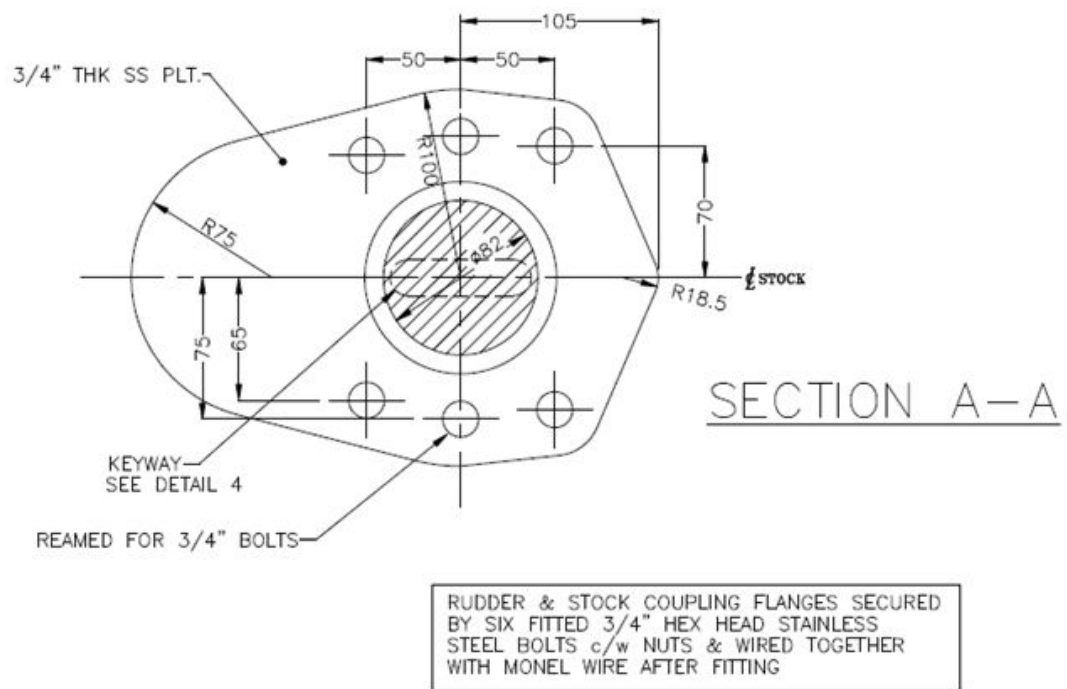


Figure H-03-3 Rudder jumping collar flange drawing

H-03 RUDDERS (SURVEY ITEM CONT.)

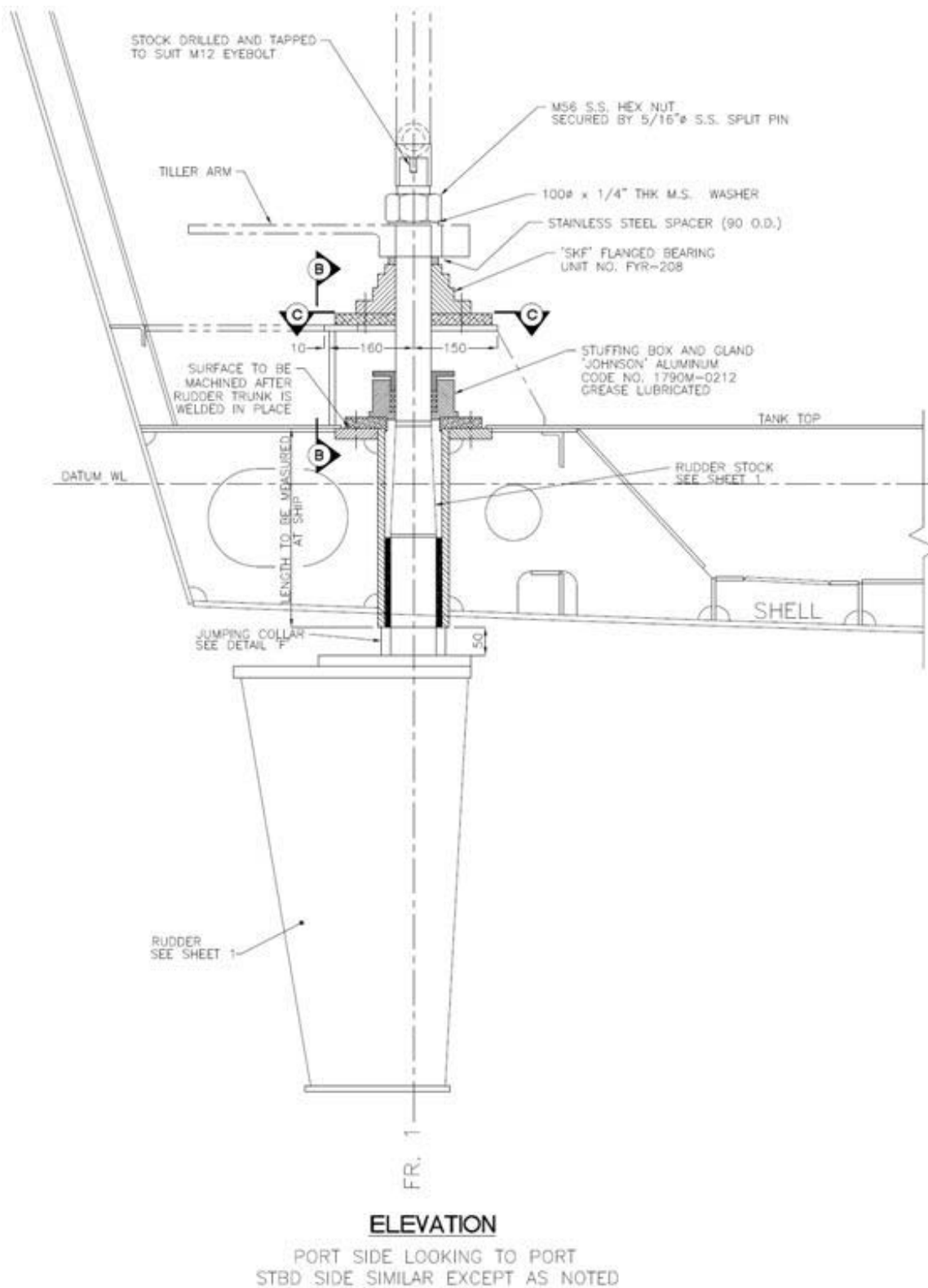


Figure H-03-4 Rudder Drawing - Elevation

H-03 RUDDERS (SURVEY ITEM CONT.)

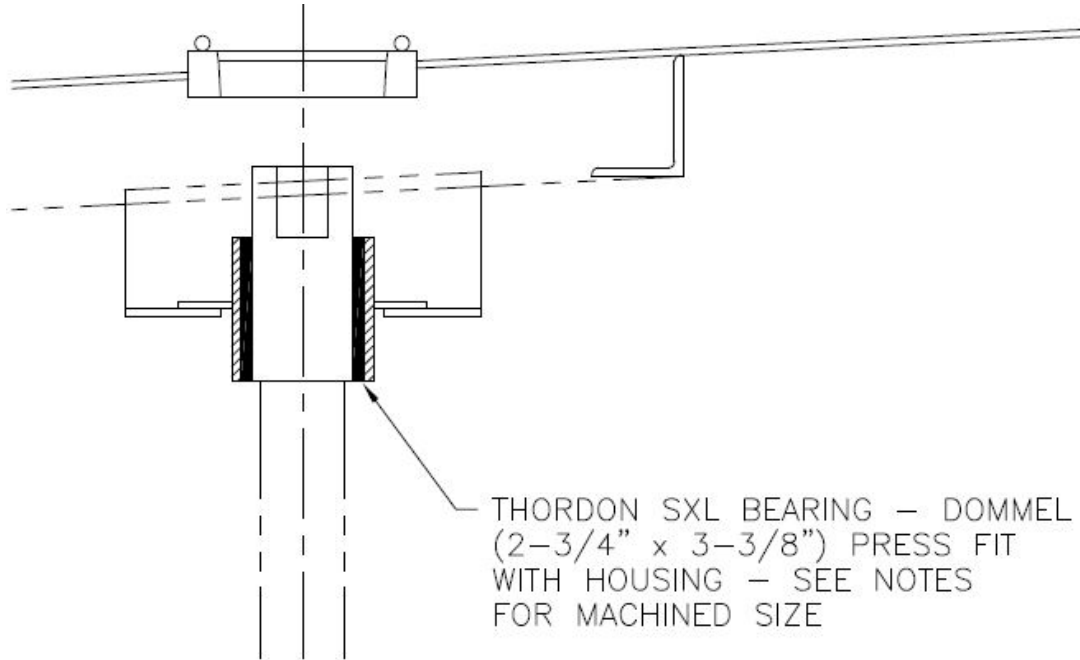


Figure H-03-5 Rudder Drawing – Upper Bearing

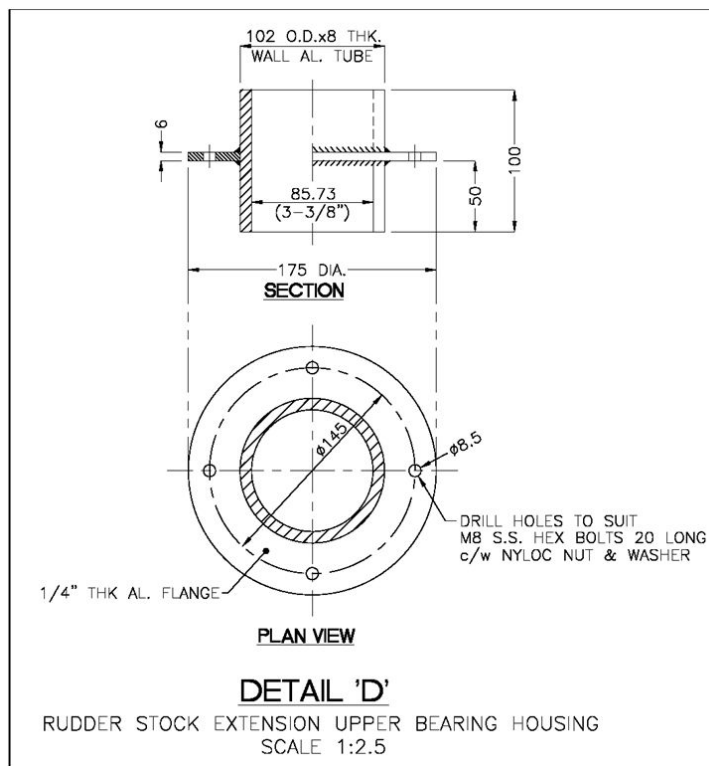


Figure H-03-6 Rudder Drawing – Upper Bearing Detail

H-04 Anchor and Cable (Survey Item)

1. Contractor shall remove and lay out anchor and chain in contractors facility for TCMSB inspection the two anchors and chain. Contractor shall request a credit against the vessels Division 3 report upon completion of this specification item. Any repairs required by TCMSB shall be done through 1379 action. Contractor shall then reinstall the two anchors and chain.



Figure H-04-1

ANCHOR

E-01 TANKS VOID SPACES (SURVEY ITEM)

1. Contractor shall contact the local TCMSB office and request their inspector view the tanks and void spaces listed below. Void spaces shall be inspected by TCMSB and viewed by the Owner's Representative and or PWGSC inspector upon completion of gas freeing. Any repairs indicated by TCMSB and approved by the Owner's Representative shall be through 1379 action.
2. Contractor to remove fuel from vessels 3 tanks and dispose of fuel. Contractor to clean and gas free fuel tanks. Contractor to clean fuel lines and remove and dispose of fuel filters and install new fuel filters. Contractor to advise when GSM fuel can be pumped into the fuel tanks. Contractor to bid on disposing of 3000 litres of fuel (actual amount of fuel to be adjusted by 1379 action once vessel arrives at contractors facilities.
3. Contractor shall remove all manhole covers as listed below Contractor shall remove each cover, gasket and the dunnage bags figure H-02-1 from within the following void spaces;

3L001 Main fuel Oil Port Db	3L012 Void Space P&S D/b
3L002 Main fuel oil Stbd Db	3L013 Void Space P&S D/b
3L003 Fuel Oil Centre	3L014 Void Space P&S D/b
3L004 Void Space Cntr D/b Stern	3L015 Void Space P&S Wing
3L005 Void Space Cntr D/b	3L016 Void Space P&S Wing
3L007 Void Space Cntr D/b	3L017 Void Space P&S Wing
3L008 Void Space Cntr D/b	3L018 Void Space P&S Wing
3L009 Void Space Cntr D/b	3L019 Void Space P&S Wing
3L010 Fore peak	3L020 Fresh Water
3L011 Void Space P&S D/b	3L021 Sewage Holding Tank
	3L022 Void Space Centre D/b

Refer to figure H-02-2 and H-02-3 for locations - total of 21 void spaces and tanks. The removal of all manhole covers and dunnage bags is required for TCMSB inspection. See drawing no. 95004-45 TANK CAPACITIES PLAN AND BUOYANCY MATERIAL LAYOUT dated October 23, 1995, available upon request from the Owner's Representative.

4. At the time of viewing Contractors shall note all interference's (i.e. pipes, brackets, wires, paneling, etc.) in way of the manhole covers and include removal and re-installation in quote.
5. Contractor shall open the void spaces listed and remove, strapping, dunnage bags, foam chips and gas free the internal areas. All void spaces listed in figure H-02-2 shall be certified gas free by a qualified person for entrance and hotwork when required. Three (3) copies of gas free certificate shall be supplied to Owner's Representative before any inspection or repair work is started. Contractor shall remove all debris ashore. All work shall be completed to the satisfaction of the Owner's Representative.

E-01 TANKS VOID SPACES SURVEY ITEM (Cont)

6. Contractor shall remove polystyrene chips and dunnage bags from the listed void spaces. Contractor shall identify on each bag the void spaces from which they were removed and record the total number of bags removed from individual void spaces. These bags are held in place by cargo webbing bolted to the frames of the void spaces.
7. Some of these bags may have opened and the chips become loose in the space, these shall be recovered and resealed in the dunnage bags belonging to that void space. Contractors shall supply and install 6 new dunnage bags (6 mil plastic- 72 litres) in their bid.
8. Contractor shall inspect all manhole covers and renew missing and defective bolts. Contractor shall quote on renewing ten (10) M8 stainless steel (SS) bolts 32mm long with SS washers and the removal and installation of 10 CFM helicoil inserts. Blind holes shall be visually examined for damage and repaired (i.e. fill by weld and re-tapped) where required through 1379 action.
9. Contractor shall request a credit against the vessel's division 3 report from TCMSB after their inspector has given approval for all internal void spaces.
10. Contractor shall reinstall all dunnage bags in their proper location, as identified above in item number 4, after receiving inspection approval from TCMSB. Prior to re-installing the dunnage bags the Contractor shall remove all foreign materials (i.e. debris, metal, welding rods, etc.) from the void spaces after all inspections have been completed. Contractor shall reinstall manhole covers to their original locations using new CFM gasket material and new CFM bolts where required. Contractor to pressure test each void space to 2 lbs PSI 30 minutes.
11. Acceptance shall be based on TCMSB approval for this specification item. Acceptance shall also be based on the satisfaction of the Owner's representative.



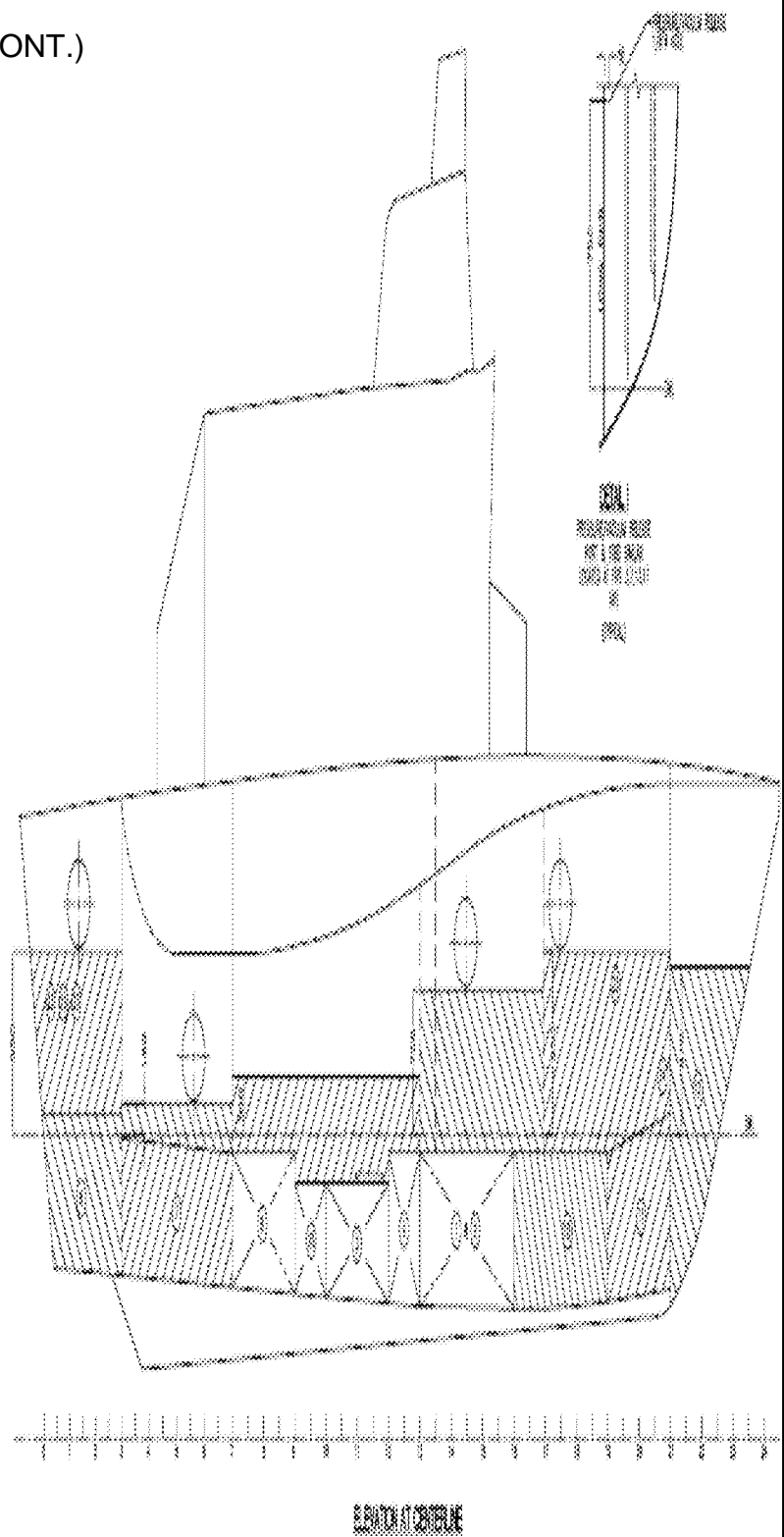
Figure E-01-1

Figure E-01-2 TANKS

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E-01 TANKS-VOID SPACES SURVEY ITEM (CONT.)

Fig E-01-3
VOID SPACES AND TANKS (CONT.)



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Fig E01-4

E-02 STORM VALVES AND SEA CONNECTIONS (SURVEY ITEM)

1. At the time of viewing the Contractor shall note the locations and conditions of all valves, associated hardware and interference items which may hinder access and disassembly of each valve being dealt with. Bid cost shall include all requirements to deal with visible interference items and corroded hardware. Any requirement to move or disturb an interference item, as well as returning said items to original condition, in good order (using new gaskets and hardware), shall be the Contractor's responsibility and cost of same shall be included in their bid.
2. Contractor shall remove the following engine room valves and prepare them for TCMSB inspection.

List of valves

PORT

- 1) Port fwd 3" m/e Sea Wtr outbd
- 2) Port fwd. 1 ½" Recirc Vv fwd
- 3) Port fwd. 1/2" Vent line top
- 4) Port fwd Camlock Inspection cover
- 5) Port aft 2 ½" Fire pump Inbd
- 6) Port aft 1" Vent Line outbd

STARBOARD

- 7) Stb Forward 3" main engine sea water outbd
- 8) Stb fwd. 1 ½" Recirc Vv fwd
- 9) Stb fwd. 1/2" Vent line top
- 10) Stb fwd Camlock Inspection cover

3. All valves shall be removed (unbolted from their flanged connections), opened up, laid out and clearly labeled (as per application) at all times. Opened valve bodies (aboard vessel) shall be cleaned and scale removed (marine growth chipped/scraped) and all valve seats wiped clean for inspection. Once properly prepared and laid out for inspection the Contractor shall notify the TCMSB inspector, Vessel Representative and PWGSC inspector. Contractor shall seek TCMSB inspection approval for all valves listed above.

Contractor shall remove. Port fwd. 1 ½" Recirc Vv fwd,
Port fwd. 1/2" Vent line top,
Port aft 1" Vent Line outbd
Stb fwd. 1 ½" Recirc Vv fwd
Contractor shall supply and install new valves.

E-02 STORM VALVES AND SEA CONNECTIONS (SURVEY ITEM) CONT.

4. Viewing by the Vessel Representative and PWGSC inspector shall not substitute for TCMSB inspection. Contractor shall prepare a typewritten cost estimate for any repairs identified during dismantling or by TCMSB during inspection, one copy each to the Vessel Representative and PWGSC inspector. Upon approval and completion of identified repairs, the Contractor shall issue a test certificate, for each valve, verifying test compliance with applicable regulations, operational requirements and notify TCMSB for re-inspection.
5. Upon TCMSB inspection approval, all valves shall be fitted, repacked, re-installed in their original location using new Contractor supplied gasket material and operation verified during sea trial.
6. Viewing by the Vessel Representative and PWGSC inspector shall not substitute for TCMSB inspection. Contractor shall prepare a typewritten cost estimate for any repairs identified during dismantling or by TCMSB during inspection, one copy each to the Vessel Representative and PWGSC inspector. Upon approval and completion of identified repairs, the Contractor shall issue a test certificate, for each valve, verifying test compliance with applicable regulations, operational requirements and notify TCMSB for re-inspection.
7. Upon TCMSB inspection approval, all valves shall be fitted, repacked, re-installed in their original location using new Contractor supplied gasket material and operation verified during sea trial.
8. Contractor shall inspect, clean and overhaul Port and Starboard Sea Strainers.

E-03 ATLANTIC CAT ENGINE WORK

1. Contractor shall allocate time over a 4 day period in total in their work plan for Atlantic Cat to carry out the following listed Government contracted work Atlantic Cat is to remove interference items, check fuel lines and replace if required and inspect turbo chargers and check end play. Atlantic shall do a Marine power display and PAR test. Atlantic Cat shall reinstall all interference items to their original positions ensuring no leaks. This work shall be carried out once the vessel is safely secured in the owners building. Atlantic Cat has been advised to carry out this work in conjunction with the refit. Atlantic Cat shall be advised that their work will not interfere with the shipyards contracted work and schedule.

E-04 HEAT EXCHANGERS / COOLERS

1. Contractor shall remove, clean and pressure test the following heat exchangers / Coolers;
 - Engine seawater and freshwater– Port and Starboard (Heat Exchangers)
 - Engine after cooler – Port and Starboard
2. Contractor shall note, at time of viewing, location and condition of all interference items associated with the removals (port and starboard) and may hinder access. Bid cost shall include all requirements to deal with visible interference items.
3. Any requirement to move or disturb any interference items, as well as returning said items to original condition, in good order, shall be the Contractor's responsibility and cost of same shall be included in bid.
4. Contractor shall clean and pressure test each heat exchanger / cooler listed above. All work shall be witnessed by the PWGSC Contracting Officer and or the Owner's Representative.
5. Contractor shall supply and install new manufacture recommended filter cartridges for all required systems noted above. Contractor shall supply and install new coolant to top up disturbed systems and new gaskets on all disturbed joints, similar material as removed. Contractor shall quote on supplying four (4) litres of Caterpillar extended life coolant.
6. Contractor shall remove all anodes in the above systems and supply and install new anodes. Note new a new zinc pocket just installed on starboard cooler the inboard one needs to be changed out with new zinc.
7. Final acceptance shall be based on a successful sea trial with all systems worked on or disturbed operating to the manufactures specifications. Vessels Engineer shall witness the equipments operation during sea trails.
8. Contractor shall supply written report on condition of coolers and heat exchangers complete with pictures of before and after the cleaning of the coolers and heat exchangers.

E-04 HEAT EXCHANGERS / COOLERS (CONT.)

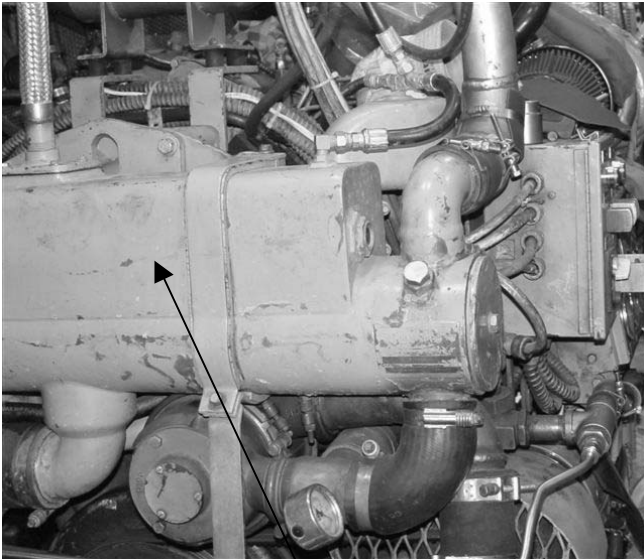
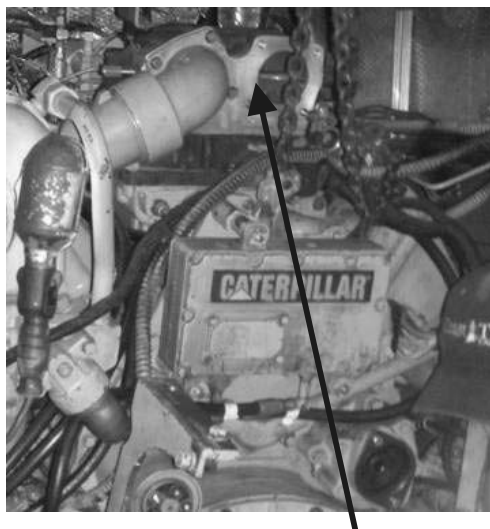


Figure E-04-1 Typical Heat Exchanger



E-04-2 Typical After cooler

E-05 ENGINE ROOM DECKING / BILGE

1. Upon completion of below deck specification items and towards the end of the refit period the Contractor shall perform the following specification item.
2. Contractor shall remove all deck plating from the engine room. Contractor shall store the existing deck plating hardware (bolts, washers and nuts) until reinstallation. Contractor shall remove the plating from the vessel to an area where they shall be cleaned and make ready for reinstallation as per this specification item.
3. Contractor shall degrease the port and starboard engines and gearboxes. Contractor shall remove all liquid contaminants and debris from the engine room bilge and surrounding areas.
4. Contractor shall fresh water steam clean all areas contaminated by oily build up and engine liquids including all bilge areas and deck plating. Contractor shall use detergents where required to remove oily build up. Contractor shall remove all water, liquid contaminants and debris from the engine room bilge areas upon completion of the above.
5. Contractor shall wipe clean and dry all areas in the engine room, bilges and deck areas upon completion of the above. All waste liquids including blast water shall be removed and disposed of in an approved manner.
6. Contractor shall mechanically clean all deck plating prior to reinstall at the end of this specification item. Contractor shall reinstall the deck plating using the existing hardware.
7. Acceptance shall be based on the Owner's Representative approval. Copies of invoices detailing disposal shall be provided to the Owner's representative and PWGSC Contracting Officer.

L-01 PORT AND STARBOARD ALTERNATORS

1. Contractor shall disconnect electrical connections (label for reinstallation) and remove both alternators from the port and starboard main engines. Contractor shall transport the two (2) alternators to an authorized overhaul facility for cleaning, testing for grounds, overhauled and functionally test to prove they operate correctly based on the manufacturer's specifications. Upon completion of this specification item both alternators shall be transported back to the Contractor. Contractor shall reinstall both alternators and reconnect their electrical connection as per their original arrangement using the new mounting brackets. (as per item 7 below). Contractor shall remove cables from the Port and Starboard alternators. Contractor shall supply and install new cables for alternators on Port side bulkhead aft of the port engine.

Recommended local service facility, has many years of experience working on these alternators.

BMR Electric
Contact: Sherry
Barton, NS
Tel: 245-1850
Cell: 245-3571

2. Contractor shall allow \$5,000.00 in their quote for the above subcontractor work. Contractor shall provide the PWGSC inspector a copy of the original invoice for the above work with adjustment through 1379 action.
3. Upon completion of the above the contractor shall reconnect the electrical heaters previously installed in the alternators and hard wire these connections to the vessels 24 volt shore power system. Contractor to install an indicator light in the engineering panel connected to the alternator heaters confirming the heaters are on when the vessel is connected to shore power. After this work has been completed and prior to starting the engines the Contractor shall excite the alternator using a small 6 volt battery source.
4. Acceptance for the sub contractor's work shall be based on a successful functional test during sea trials with both alternators functioning as per manufacturer's specification and to the satisfaction of the Vessel Engineer.
5. Acceptance for the alternator heater portion of this specification item shall be based on a successful functional test using the vessels shore power connections with both alternators functioning to the satisfaction of the owners representative or the Vessels Engineer.

L-01 MAIN ENGINE STARTERS AND ALTERNATORS (continued)

6. Contractor shall remove the existing mounting brackets on Port and Starboard main engine alternators and engine side.
7. Contractor shall fabricate and install new alternator mounting brackets on Port and Starboard engines. The new brackets shall be adjustable, so that the alternator pulley can be aligned with the engine pulley.
8. Contractor shall incorporate a belt tensioner on the new mounting bracket. The tensioner shall be easily accessible and provide sufficient travel to allow the belt to be tensioned and not bottom out. The tension rod shall not protrude into the walking space.

L-01 MAIN ENGINE STARTERS AND ALTERNATORS (continued)



Figure L-01-1 Starboard alternator and starter

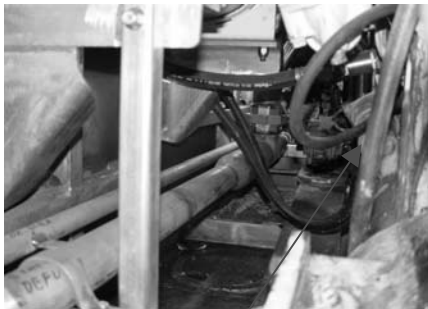


Figure L-01-2 Port starter



Figure L-01-3 Port alternator

Source
Figure HD-02-1

DRILL & TAP FOR 3/4"Ø BOLT

3" Ø S.T. AL.
S.S. PUG
WHERE ACCESS POSSIBLE
NYLON WASHER
1 – 1/4" OD x 7/8" ID x 5/64" THK

DRAIN PLUG

HEX HOLE 10 DEEP TO SUIT 10mm
ALLEN KEY (SLOT FOR FUEL TANK
PLUGS)

DRILL 3/16"Ø DRAIN HOLES

3/4"Ø BOLT x 3/32" THREAD

PLUG DETAIL

MATERIAL – S.S. PLUG

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THORDON BEARINGS:

BEARING MACHINED TO FOLLOWING
SPECIFICATIONS:

CODE NAME

SIZE, I.D. x O.D.

MACHINED SIZE, I.D. x O.D

LENGTH

SXL (TOP)

SXL (BTM)

100mm

160mm

Figure H-03-3

REAMED FOR 3/4" BOLTS

KEYWAY SEE DETAIL 4

3/4" THK SS PLT.

STOCK

SECTION A-A

RUDDER & STOCK COUPLING FLANGES
SECURED BY SIX FITTED 3/4" HEX HEAD

Target
Figure HD-02-1

PERCER ET TARAUDER POUR LE
BOULON DE 3/4" Ø

3" Ø S.R. ALU.

BOUCHON EN INOX

LÀ OÙ L'ACCÈS EST POSSIBLE

RONDELLE EN NYLON

1 – 1/4" DIA. EXT. x 7/8" DIA. INT. x 5/64"

D'ÉPAISSEUR

BOUCHON DE VIDANGE

TROU HEXAGONAL 10 DE PROFONDEUR
POUR CONVENIR À UNE CLEF ALLEN
DE 10 mm (FENTE POUR LES BOUCHONS
DU RÉSERVOIR DE CARBURANT)

PERCER DES TROUS D'ÉVACUATION DE
3/16" Ø

BOULON DE 3/4" Ø x FILET DE 3/32"

DESSIN DE DÉTAIL DU BOUCHON

MATÉRIAU : BOUCHON EN INOX

Page 29

PALIER THORDON :

PALIER USINÉS CONFORMÉMENT AUX
SPÉCIFICATIONS SUIVANTES :

NOM DE CODE

DIMENSION, DIA. INT. x DIA. EXT.

DIMENSIONS USINÉES, DIA. INT. x DIA.
EXT.

LONGUEUR

SXL (SUPÉRIEUR)

SXL (INFÉRIEUR)

100 mm

160 mm

Figure H-03-3

ALÉSÉ POUR BOULONS DE 3/4"

CHEMIN DE CLÉ VOIR DÉTAIL 4

PLAQUE EN INOX DE 3/4" D'ÉPAISSEUR

MÈCHE

SECTION A-A

GOUVERNAIL ET TOURTEAUX
D'ACCOUPLEMENT DE LA MÈCHE FIXÉS

STAINLESS STEEL BOLTS c/w NUTS &
WIRED TOGETHER WITH MONEL WIRE
AFTER FITTING.

Figure H-03-4

STOCK DRILLED AND TAPPED TO SUIT
M12 EYEBOLT
TILLER ARM
M56 S.S. HEX NUT SECURED BY 5/16"Ø
S.S. SPLIT PIN

100Ø x 1/4" THK M.S. WASHER

STAINLESS STEEL SPACER (90 O.D.)

'SFK' FLANGED BEARING UNIT NO.
FYR-208
SURFACE TO BE MACHINED AFTER
RUDDER TRUNK IS WELDED IN PLACE
STUFFING BOX AND GLAND 'JOHNSON'
ALUMINUM CODE NO. 1790M-0212
CREASE LUBRICATED
TANK TOP
DATUM WL
RUDDER STOCK SEE SHEET 1

LENGTH TO BE MEASURED AT SHIP
JUMPING COLLAR SEE DETAIL F
SHELL
RUDDER SEE SHEET 1
F.R. 1

ELEVATION

PORT SIDE LOOKING TO PORT STBD
SIDE SIMILAR EXCEPT AS NOTED

Figure H-03-5

THORDON SXL BEARING – DOMMEL (2-
3/4" x 3-3/8") PRESS FIT WITH HOUSING –
SEE NOTES FOR MACHINED SIZE

À L'AIDE DE SIX BOULONS À TÊTE
HEXAGONALE EN INOX, ALÉSAGE 3/4"
AVEC ÉCROUS, RELIÉS PAR UN FIL EN
MONEL À LA SUITE DE
L'INSTALLATION.

Figure H-03-4

MÈCHE PERCÉE ET TARAUDÉE POUR
CONVENIR AU BOULON À OEIL M12
ALLONGE DE BARRE
ÉCROU HEXAGONAL M56 EN INOX FIXÉ
PAR GOUPILLE FENDUE EN INOX DE
5/16" Ø

RONDELLE ACIER DOUX DE 100 Ø x 1/4"
D'ÉPAISSEUR RONDELLE
CALE D'ESPACEMENT EN INOX (90 DIA.
EXT.)

ROULEMENT À COLLERETTE SKF
N° FYR-208
SURFACE À USINER APRÈS SOUDAGE
EN PLACE DE LA JAUMIÈRE
BOÎTE À GARNITURE ET FOULOIR
JOHNSON ALUMINUM N° DE CODE
1790M-0212 LUBRIFIÉS À LA GRAISSE
DESSUS DE RÉSERVOIR
PLAN DE RÉFÉRENCE WL
MÈCHE DE GOUVERNAIL (VOIR
FEUILLET 1)

LONGUEUR MESURÉE SUR LE NAVIRE
BRIDE DE TOURTEAU (VOIR DÉTAIL F)
COQUE
GOUVERNAIL (VOIR FEUILLET 1)
F.R. 1

ÉLÉVATION

CÔTÉ BÂBORD VUE SUR LE CÔTÉ
BÂBORD CÔTÉ TRIBORD SEMBLABLE
SAUF INDICATIONS CONTRAIRES

Figure H-03-5

PALIER THORDON SXL – AJUSTEMENT
SERRÉ DU DOMMEL (2-3/4" x 3-3/8")
DANS SON LOGEMENT (VOIR
REMARQUES POUR LES DIMENSIONS
D'USINAGE)

Figure H-03-6

102 O.D.x8 THK.
WALL AL. TUBE
175 DIA.

SECTION

DRILL HOLES TO SUIT MB S.S HEX
BOLTS 20 LONG c/w NYLOC NUT &
WASHER

¼" THK AL. FLANGE

PLAN VIEW

DETAIL 'D'

RUDDER STOCK EXTENSION UPPER
BEARING HOUSING SCALE 1:2.5

Figure E-01-2

NO.
COMPARTMENT
CAPACITY (LITRES)
WEIGHT (KG)
FRAME LOCATION
REMARKS
MAIN FUEL OIL PORT

MAIN FUEL OIL STBD

RESERVE FUEL OIL CENTER

SEA BAY PORT
SEA BAY STBD
VOID SPACE CENTER
VOID SPACE CENTER
VOID SPACE CENTER
VOID SPACE CENTER
VOID SPACE CENTER
VOID SPACE CENTER
FOREPEAK
VOID SPACE PORT & STBD

VOID SPACE PORT & STBD

VOID SPACE PORT & STBD

Figure H-03-6

102 DIA. EXT. X 8 D'ÉPAISSEUR
TUBE D'ALU. DE LA PAROI
175 DIA.

SECTION

PERCER DES TROUS POUR DES
BOULONS M8X20 EN INOX À TÊTE
HEXAGONALE AVEC ÉCROU NYLOC ET
RONDELLE

BRIDE EN ALU. DE ¼" D'ÉPAISSEUR

VUE EN PLAN

DÉTAIL « D »

LOGEMENT DU PALIER SUPÉRIEURE DE
L'EXTENSION DE LA MÈCHE DU
GOUVERNAIL, ÉCHELLE 1:2,5

Figure E-01-2

N^o
COMPARTIMENT
CAPACITÉ (l)
POIDS (kg)
EMPLACEMENT DES MEMBRURES
REMARQUES
RÉSERVOIR PRINCIPAL DE CARBURANT
DE BÂBORD
RÉSERVOIR PRINCIPAL DE CARBURANT
DE TRIBORD
RÉSERVOIR DE RÉSERVE DE
CARBURANT CENTRAL
CAISSON D'EAU DE MER DE BÂBORD
CAISSON D'EAU DE MER DE TRIBORD
ESPACE MORT CENTRAL
ESPACE MORT CENTRAL
ESPACE MORT CENTRAL
ESPACE MORT CENTRAL
ESPACE MORT CENTRAL
ESPACE MORT CENTRAL
COQUERON AVANT
ESPACES MORTS DE BÂBORD ET DE
TRIBORD
ESPACES MORTS DE BÂBORD ET DE
TRIBORD
ESPACES MORTS DE BÂBORD ET DE

VOID SPACE PORT & STBD

VOID SPACE PORT & STBD

VOID SPACE PORT & STBD

VOID SPACE PORT & STBD

VOID SPACE PORT & STBD

VOID SPACE PORT & STBD

VOID SPACE PORT & STBD

FRESH WATER 6 OFF
SEWAGE HOLDING TANK
VOID SPACE CENTER

13-16 DBL. BTM.

13-16 DBL. BTM.

10-12 DBL. BTM.

12-13 DBL. 0TM.

12-13 DBL. BTM.

STERN-3 DBL. BTM.

3-7 DBL. BTM

7-9 DBL. BTM.

12-13 DBL. BTM.

16-19 DBL. BTM.

19-21 DBL. BTM.

21-STEM

9-12 DBL. BTM.

7-13 DBL. BTM.

13-16 DBL. BTM.

16-19 DBL. BTM.

19-21 DBL. BTM.

STERN-3 WING

3-7 WING

7-13 WING

13-17 WING

19-21 WING

3-21 WASHROOM STEERING GEAR

20.5-21 WASHROOM

9-10 DBL. BTM.

FILLED WITH FUEL

FILLED WITH FUEL

TRIBORD

ESPACES MORTS DE BÂBORD ET DE
TRIBORD

ESPACES MORTS DE BÂBORD ET DE
TRIBORD

ESPACES MORTS DE BÂBORD ET DE
TRIBORD

ESPACES MORTS DE BÂBORD ET DE
TRIBORD

ESPACES MORTS DE BÂBORD ET DE
TRIBORD

ESPACES MORTS DE BÂBORD ET DE
TRIBORD

ESPACES MORTS DE BÂBORD ET DE
TRIBORD

RÉSERVOIRS D'EAU DOUCE (6)

BAC D'EAUX USÉES

ESPACE MORT CENTRAL

13-16 DOUBLE-FOND

13-16 DOUBLE-FOND

10-12 DOUBLE-FOND

12-13 DOUBLE-FOND

12-13 DOUBLE-FOND

POUPE-3 DOUBLE-FOND

3-7 DOUBLE-FOND

7-9 DOUBLE-FOND

12-13 DOUBLE-FOND

16-19 DOUBLE-FOND

19-21 DOUBLE-FOND

21-ÉTRAVE

9-12 DOUBLE-FOND

7-13 DOUBLE-FOND

13-16 DOUBLE-FOND

16-19 DOUBLE-FOND

19-21 DOUBLE-FOND

POUPE-3 AILE

3-7 AILE

7-13 AILE

13-17 AILE

19-21 AILE

3-21 TOILETTE APPAREIL À
GOUVERNER

20.5-21 TOILETTE

9-10 DOUBLE-FOND

REMPLI DE CARBURANT

REMPLI DE CARBURANT

FILLED WITH FUEL
EMPTY
EMPTY
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
EMPTY
EMPTY
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
EMPTY
EMPTY
EMPTY
EMPTY
EMPTY
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
FILLED WITH POLYETHYLENE
PORTABLE POTABLE WATER
EMPTY

Fig E-01-3

PRESSURE/VACUUM RELEASE 1/8"Ø
HOLE
LONG [ILLEGIBLE]

DETAIL 1

PRESSURE/VACUUM RELEASE PORT &
STBD SIMILAR LOCATED AT FRS 3, 7, 13,
17 NTS (TYPICAL)

ELEVATION AT CENTERLINE

REMPLE DE CARBURANT
VIDE
VIDE
REMPLE DE POLYÉTHYLÈNE
REMPLE DE POLYÉTHYLÈNE
VIDE
VIDE
REMPLE DE POLYÉTHYLÈNE
REMPLE DE POLYÉTHYLÈNE
REMPLE DE POLYÉTHYLÈNE
VIDE
VIDE
VIDE
VIDE
VIDE
REMPLE DE POLYÉTHYLÈNE
REMPLE DE POLYÉTHYLÈNE
REMPLE DE POLYÉTHYLÈNE
REMPLE DE POLYÉTHYLÈNE
REMPLE DE POLYÉTHYLÈNE
PORTABLE EAU POTABLE
VIDE

Figure E-01-3

ÉVACUATION PRESSION/DÉPRESSION
TROU 1/8" Ø
LONG [ILLISIBLE]

DÉTAIL 1

ÉVACUATION PRESSION/DÉPRESSION
BÂBORD ET TRIBORD SEMBLABLES
SITUÉS AUX MEMBRURES 3, 7, 13, 17
NON À L'ÉCHELLE (TYPIQUE)

ÉLÉVATION À LA LIGNE D'AXE