

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

INVITATION TO TENDER
APPEL D'OFFRES

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

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

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

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

Comments - Commentaires

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

Issuing Office - Bureau de distribution

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

| | |
|--|--|
| Title - Sujet CCGS Cape Light - REFIT | |
| Solicitation No. - N° de l'invitation F5561-132508/A | Date 2013-08-29 |
| Client Reference No. - N° de référence du client F5561-132508 | GETS Ref. No. - N° de réf. de SEAG PW-\$HAL-403-9063 |
| File No. - N° de dossier HAL-3-71111 (403) | CCC No./N° CCC - FMS No./N° VME |
| Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-09-26 | |
| 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 MARITIMES REGIONAL HQ BLDG 50 DISCOVERY DR - LEVEL 4 DARTMOUTH Nova Scotia B2Y4A2 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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F5561-132508/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

ha1403

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

F5561-132508

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HAL-3-71111

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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 CAPE LIGHT 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

A bidders' conference will be held at Canadian Coast Guard Base, Clark's Harbour on September 19, 2013. The conference will begin at 1300 HRS.. The scope of the requirement outlined in the bid solicitation will be reviewed during the conference and questions will be answered. It is recommended that bidders who intend to submit a bid attend or send a representative.

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

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

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 September 19, 2013 at 1000 hrs local onboard the vessel at the Government Wharf, Clarks Harbour, NS. Bidders are requested to communicate with the Contracting Authority two (2) days (Tuesday, Sept 17) 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: 02 October 2013

Complete: 30 October 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 ;
- b. Vessel Undocking ;
- c. 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 CAPE LIGHT

Home port: Clarks Harbour, 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 | \$1,166.00 |
| Shelburne Ship Repair | Shelburne, NS | \$826.00 |
| LIFE | Lunenburg, NS | \$1,544.00 |
| Abco | Lunenburg, NS | \$1,544.00 |
| CME Marine | Sambro, NS | \$3,087.00 |
| Aecon Fabco | Pictou, NS | \$4,512.00 |
| Samson Boats | Arichat, NS | \$7,672.00 |

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.

1.2 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 at 2:00 PM ADT on 26 September 2013

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 Clark's Harbour 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

3.1 Work Period - Marine

Work must commence and be completed as follows:

Commence: 02 Oct 2013

Complete: 30 Oct 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:

Todd Smith

Canadian Coast Guard

Solicitation No. - N° de l'invitation

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File No. - N° du dossier

HAL-3-71111

Buyer ID - Id de l'acheteur

ha1403

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

F5561-132508

CCC No./N° CCC - FMS No/ N° VME

Telephone: (902) 426-2798
E-mail Address: Todd.Smith@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 ;
- b. Vessel Undocking ;
- c. 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
- b. 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;
- b. one copy to the Technical Authority;
- c. 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

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

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

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

G1001C (2008-05-12)

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ANNEX "A" - STATEMENT OF WORK

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

Refit Specification - CCGC CLARKS HARBOUR Specification No. **13-C145009-1 October 2, 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.

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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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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 | <u>Effect on Vessel Operations</u> <u>Effet sur des opérations de navire</u> 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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4. PWGSC Review of Warranty Claim Action – Examen d'action de réclamation de garantie par TPSGC

Signature – Signature

Date

5. Additional Information – Renseignements supplémentaires

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: 45 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.

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**.

| Spec# | Description | Material | Labour | Total |
|------------|--|----------|--------|-------|
| | Services | | | |
| | Electrical Power per Kwh \$ _____ | | | |
| | Gangways per day \$ _____ | | | |
| | Garbage Removal per day \$ _____ | | | |
| | Shelter/Enclosure per day \$ _____ | | | |
| | Sea Trail per hour \$ _____ | | | |
| HD-01 | Docking & Undocking | | | |
| HD-02 | Anodes | | | |
| HD-03 | Painting and Prep of Vessel | | | |
| HD-04 | Tailgate Repairs | | | |
| HD-05 | Superstructure Maintenance | | | |
| HD-06 | Crane Winches | | | |
| H-01 | Main Engine Overhaul & Repositioning | | | |
| H-02 | Main Engine Mounting & Shaft Modification | | | |
| H-03 | Jet Drive Maintenance | | | |
| H-04 | Survey/Inspection Items | | | |
| H-05 | Hydraulic System Flush | | | |
| H-06 | Hatches | | | |
| L-01 | Floodlights | | | |
| | | | | |
| TOTAL COST | | | | |



Fisheries and Oceans
Canada

Canadian Coast Guard

Pêches et Océans
Canada

Garde côtière canadienne

CANADIAN COAST GUARD



REFIT SPECIFICATION

CCGC CAPE LIGHT

SPECIFICATION NO. 13-C145-009-1

Revision 1

2013-10-02

CLARK'S HARBOUR, NOVA SCOTIA

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GENERAL NOTES

1. The CCGC Cape Light is a 48' Coast Guard Inshore Multi Task Patrol Vessel.

2. Vessel particulars:

| | |
|-----------------|---------------------------------------|
| Vessel Location | Westhead, Nova Scotia |
| Year Built | 2001 |
| Yard | Metal Craft Marine, Kingston, Ontario |
| Hull | Alumimium |
| Engines | 122P EDC Vovlo Penta Diesels (x2) |
| Jets | Hamilton Jets 322 W/36 kw Impellers |
| Length Overall | 14.65 Metres |
| Beam | 4.99 Metres |
| Depth Molded | 1.378 Metres |
| Draft | 0.740 Metres |
| Displacement | 17.5 Tonnes |

3. The Vessel Representative has 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 the Contractor prior to any work or fabrication commencing. All discrepancies are to be recorded and reported to the Vessel Representative and Public Works Government Services Canada (PWGSC) Inspector as soon as possible. Any changes to the specified work, due to the above, shall be resolved between the Contractor and the Vessel Representative prior to work starting.

4. Work shall be performed in compliance with Transport Canada Marine Safety Branch (TCMSB) Regulations and subject to inspection by their surveyors. The Contractor shall notify the local TCMSB office to arrange inspections by their surveyor. The Contractor is responsible for keeping a record of all inspection items addressed, dates inspected, including sign off from the TCMSB inspector. The Contractor shall notify the Vessel Representative and the PWGSC inspector of any discrepancies during the inspection.

5. Where the approval of Environment Canada (EC) or any other authority is required by law or by work contained in this specification, the Contractor is responsible for obtaining and keeping a record of these approvals. Three copies of all approvals and records shall be given to the PWGSC inspector.

6. All specification work shall be completed and witnessed by the Vessel Representative, unless otherwise advised, will be the Vessel Engineer (V/E) of the vessel and PWGSC Technical Inspector. Upon completion of each item in the specification, the Vessel Representative shall be notified so that he/she may witness any and all work prior to final close up and after complete close up. Failure to give notification does not absolve the Contractor of the responsibility for providing the Vessel Representative the opportunity to witness any item. Witnessing of any specification item by the Vessel Representative does not

substitute for any required inspection by TCMSB, PWGSC inspector or other regulatory agency.

7. Contractor shall provide a work schedule for all specification items. The Vessel Representative will not pay for extra effort and/or provision of services required due to the Contractor's failure to maintain his/her schedule.
8. Any item of work involving the use of heat in its execution requires that the Contractor advise the Vessel Representative, only if he/she is aboard during the refit period, prior to starting and upon completion. The Contractor shall provide sufficient suitable fire extinguishers and a fire watch and/or safety person during any such heating and until the work has cooled. Ship's extinguishers are not to be used except in an emergency. The Vessel Representative shall be notified immediately if an incident of this nature occurs. Contractor shall recharge, at their expense, any ship's extinguishers used in an emergency situation.
9. The Contractor and their in-house welding personnel shall be currently certified, under the most recent designation, by the Canadian Welding Bureau (CWB) in accordance with CSA Welding Standards W47.1 and W47.2. Contractor's personnel performing welding shall be approved by CWB for the position (i.e. down weld, over head weld, etc.) necessary to complete work identified in this specification. Contractor shall electrically isolate the vessel's Inverter before any welding is to take place aboard, and re-connect after all welding is completed.
10. Contractor's facility and personnel shall be certified under CWB to weld the following aluminum and steel grades:

| | |
|----------------------|--------------------|
| Plates 5mm and over | 5086-H32 or 5083- |
| Plates under 5mm | 5052-H32 |
| Pipes and Extrusions | 6061-T6 or 6351-T6 |
| Stainless Steel (SS) | 316 |
11. Any welding near bearings or electronic equipment shall have its work locally grounded. No welding to be undertaken in main engine room without direct written permission of the Vessel Representative.
12. All electrical installations or renewals are to 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>)
13. Any requirement to move or disturb interference items (to gain access), as well as returning said items to original condition, in good order, shall be the Contractor's responsibility and cost of same to be included in bid. All disturbed joints shall be reconnected as per original using new Contractor Furnished Material (CFM); (i.e. jointing, gaskets, SS nuts, SS bolts, non metallic anti-seize

compounds, SS clamps, SS brackets). All floor bearers and flooring as applicable shall be replaced and re-secured as per original.

14. Unless specified otherwise, any replacement and/or disturbed metal work (normally painted, as identified by the Vessel Representative) to be given a minimum of two (2) coats of marine primer (INTERPRIME 519) immediately upon completion of work.
15. Temporary lighting and temporary ventilation required by the Contractor to carry out any item in this specification shall be CFM, installed, and maintained by the Contractor and removed upon completion of the related work.
16. There is a safety addendum "INTERNATIONAL SAFETY MANAGEMENT CODE", available upon request. In addition to the detailed requirements within the specification, this addendum contains excerpts from the document DFO 5737, "FLEET SAFETY MANUAL" that are applicable to contracted refit and dry-docking situations and shall be treated as a minimum requirement with flexibility for using other policies of similar stature or greater. It is noted in the addendum that all contracted work shall be conducted in compliance with the requirements of the Canada Labour Code, Part 2. Potential Contractors are to include the name of their Safety Manager or Supervisor who will ensure that these requirements for workplace safety are met. Failure to include this information will render bids non-compliant.
17. All tests results, calibrations, measurements, trials and readings are to be properly tabulated, compiled and three typewritten copies are to be provided; two copies to the Vessel Representative with workers original hand written notes and one copy to the PWGSC inspector. All tests and trials are to be performed to the satisfaction TCMSB marine surveyor and witnessed by the Vessel Representative.
18. While the vessel is in refit at the Contractor's premises, members of the ship's crew, Regional Coast Guard technical staff, specialized service engineers, will carry out repairs to; maintenance of; or modifications of various ship's equipment not covered by this specification. Every effort will be made to ensure that this self-maintenance and Coast Guard controlled work will not interfere or conflict with the work being carried out by the Contractor's personnel. Access to the vessel shall not be denied to these persons by the Contractor. Any conflict with work priorities shall be arranged between the Vessel Representative and the Contractor.
19. Public Service Smoking Policy forbids smoking in Government ships in all areas inside the ship where shipyard personnel will be working. Contractor shall inform shipyard personnel of this policy and ensure that it is complied within all cases.
20. All materials, unless otherwise specified, shall be CFM. Contractor to supply all necessary tools to perform specified work.
21. Vessel drawings may be located aboard the vessel, if not the Contractor can contact the Vessel Representative for a copy. All drawings are available to the Contractor and shall be returned in original condition upon completion of work.

22. The Contractor to take note that items in this specification are not detailed (such as piping, windows, electrical, etc.) and require viewing in order to bid. Although not mandatory, it is strongly recommended that the Contractor arrange a site visit to exam the CCGC Cape Light. Its home port is the Canadian Coast Guard Search and Rescue Station - Clark's Harbour (Westhead), Nova Scotia. Prior to submitting a bid the Contractor can contact the Project Officer (two days notice) to arrange the vessel viewing at the Clark's Harbour wharf. Bidders who do not view the vessel in order to determine the scope of work will be evaluated as if they had attended the site visit and are fully aware of the vessels existing condition prior to the refit.
23. Contractor shall contact The Canadian Coast Guard Technical Services Vessel Support Engineering Project Officer Geoff Stewart, prior to any site visit, by calling (902) 426-2798. The Project Officer will arrange and confirm vessel location and time of viewing.

SERVICES

Contractor shall be responsible for all additional connections required when ship is moved between dry-dock and alongside berth at their premises. Services are required for the full refit/dry-dock period. Each item is to 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.

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 adjustments by 1379.
- 1.2. A ground cable shall be attached to the ship'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_e.htm
- 1.3. The Contractor shall supply and install a shore power cable and meter. The Vessel Representative and Contractor's representative shall read and record the vessels kw meter readings on a regular basis shall track the power consumption. If metering is not available the Contractor shall indicate in their bid how they propose to track vessel kwh usage. The Contractor shall not use the vessel's power supply, must supply their own.

2. Gangways

- 2.1. Contractor shall supply and erect a gangway, complete with safety nets and guard rails as per Provincial regulations i.e.: possible web site
<http://www.gov.ns.ca/enla/healthandsafety/docs/FishSafe.pdf> .
- 2.2. Gangway to land on main deck aft and shall be illuminated during the dark hours.
- 2.3. Any movement of the gangway for the convenience of the Contractor is at the expense of the Contractor.

3. Garbage Removal / Cleaning

- 3.1. All garbage containers (vessel's waste baskets or Contractor supplied containers) to be emptied out on a daily basis. Contractor to remove own daily garbage from work areas of the vessel. Cost to 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.

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 preferred) around the vessel prior to any work commencing. With the mast lowered, the vessel will have a height (from the keel to the top of the radar) of approximately 34 feet. The shelter shall be heated and enclose all external work areas around the entire vessel including the superstructure and mast.
- 5.2. The shelter will provide full protection to allow for welding and painting on the vessel during inclement weather.
- 5.3. The shelter will provide protection to prevent unwanted debris, particles and/or materials (i.e. grinding debris, 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.

6. Sea Trial

- 6.1. Bidders shall include a "4-hour" sea trial in their bid price. Contractor shall provide 48 Hour notice of the time for sea trials to the Vessel's Representative. Vessel operation will be by Canadian Coast Guard (CCG) under the Contractor's direction and the aim of the sea trial will be to prove the safe and correct function of systems and equipment that have been worked on, added or disturbed as part of the refit.

HD-01 DOCKING & UNDOCKING

- HD-01-1. Contractor shall dock and undock vessel and allow sufficient lay 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 lay day. Contractor shall prepare blocks and necessary shoring to maintain true alignment of the vessel's hull and machinery throughout the dry-docking period.
- HD-01-2. All manpower, materials, tugs, pilots, cranes, spreader bars, etc., required to carry out the work shall be CFM and shall be to the approval of the Vessel Representative.

Vessel Particulars:

| | |
|-------------------|---|
| Length O.A. | 14.65 Metres |
| Beam | 4.99 Metres |
| Depth Molded | 1.378 Metres |
| Dry Weight | 1340 Kg |
| Fuel Capacity | 3000 Litres |
| Electrical System | 24 VDC, 12 VDC Sub System 240 VAC Shore Connection |

- HD-01-3. 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 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.
- HD-01-4. The Contractor is responsible for the safe 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. There shall be sufficient water beneath the vessel that it shall not touch bottom at any time (upright and afloat).
- HD-01-5. Within four (4) hours of docking, cleaning of the underwater 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 Vessel Representative. Prior to commencing hydro blasting, all hull mounted equipment and openings, excluding sea bays, are to be fully protected.

- HD-01-6. The Contractor shall give the Vessel Representative a minimum of four (4) hours advance notice before adding/removing liquids from any vessel's tanks. Similarly, Vessel Representative will advise Contractor of any intended onboard fluid transfers.
- HD-01-7. Upon completion of all specified work, requiring the vessel to be dry-docked, and with a minimum of 24 hours' notice to the Vessel Representative, the vessel shall be re-floated.
- HD-01-8. Any contamination of the vessel's hull by materials (e.g.: oil) present in the dock shall be cleaned, after the vessel is re-floated and clear of the dock, at the Contractor's expense and to the satisfaction of the Vessel Representative.
- HD-01-9. Contractor shall adhere to the Fisheries Protection Act with reference to reclaiming water used to clean the hull.

HD-02 ANODES

- HD-02-1. Contractor shall inform the CGTA before transom anodes are removed so that he/she may perform a visual inspection of the existing anodes to determine that they are working properly.
- HD-02-2. Contractor shall remove the four (4) existing transom anodes and hold down straps. Contractor shall quote on renewal and reinstalling of the four 22 lb 99% pure zinc anodes, similar style and dimensions as existing and replacing hold down straps.
- HD-02-3. Contractor shall prepare the transom area where the existing anodes were removed, as per section HD-03 UNDERWATER HULL PAINTING, prior to installing the anodes.



Figure HD-02-1 - Transom Anodes

HD-03 PAINTING AND PREP OF VESSEL

Multi Task Patrol Vessel Square Areas:

| | |
|----------------------|--|
| Wetted hull | 62 m ² (667 ft ²) |
| Hull above waterline | 65 m ² (699 ft ²) |
| Wheel house | 43 m ² (462 ft ²) |

NOTES TO THE CONTRACTOR:

International paints (existing coatings) shall only be used, unless approval for an alternative coating is obtained from the Vessel Representative in writing. The Contractor shall strictly adhere to the manufacturer's instructions in regard to the application of each coating with relation to humidity, temperature, mixing and application.

HD-03-1. TOPSIDES

- a) The vessel's entire wheelhouse, hull – above waterline and decks shall be cleaned of dirt, debris and flaking paint. This work shall be carried out upon dry-docking using high pressure water washing. Pressure washing equipment shall be adjusted to not less than 3000 PSI and no greater than 5000 PSI operating pressure. Rinse well and dry.
- b) Grit blast with non-metallic media all bare metal areas to create a sharp angular profile with a depth no less than 1.5 mils. Feather back onto sound existing coating by 3-6 inches.
- c) Contractor shall bid on touch up primer (Interprime 198, white, CPA 097) and topcoat (Interthane 990 White) applied to achieve a dry film thickness (DFT) of 2.0 mils, to 25 m² (270 ft²) of the Wheelhouse and Superstructure.
- d) Contractor shall bid on touch up primer (Interprime 198, oxide red, CPA 099) and topcoat (Interthane 990 Coast Guard Red) applied to achieve a dry film thickness (DFT) of 2.0 mils, to 25 m² (270 ft²) of the Hull – above waterline.
- e) Contractor shall provide a cost per square meter, for primer, for adjustment purposes.
- f) Contractor shall bid on a finish coat to the above waterline area 25 m² (270 ft²) and the Wheelhouse and Superstructure 25 m² (270 ft²).
- g) Measures are to 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.

- h) Deck machinery and other equipment susceptible to damage by coating material are to be protected. All portholes, doors, freeing ports, hull, and openings, are to be covered by suitable materials to prevent damage or entry of foreign materials when sanding or painting is in progress.
- i) Contractor to note that all areas painted in black, requiring new paint, shall be done in flat black marine enamel.
- j) The existing vessel decals located on the outside wheelhouse shall be renewed with GSM decals.

HD-03-2. WETTED HULL

- a) All underwater hull surfaces including sea water inlets and seabays shall be cleaned of loose scale, salts, and marine growth, including a fresh water wash, scrape, scrub & degrease. This work shall be carried out upon dry-docking using high pressure water washing. Pressure washing equipment shall be adjusted to not less than 3000 PSI and no greater than 5000 PSI operating pressure. Rinse well and dry.
- b) Contractor shall high pressure wash wetted hull in an attempt to remove existing Trilux 11 coating.
- c) 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.
- d) Deck machinery and other equipment susceptible to damage by coating material are to be protected. All portholes, hull doors, freeing ports, hull openings, anodes, nozzles, and jets are to be covered by suitable materials to prevent damage or entry of foreign materials when sandblasting, grinding or painting is in progress.
- e) Contractor shall bid on touch up primer (Interprime 198, oxide red, CPA 099) and topcoat (Trilux 11) applied to achieve a dry film thickness (DFT) of 2.0 mils, to 10 m² (108 ft²) of the Underwater Hull.
- f) Contractor shall replace existing vessel draft marks with new GSM marks.

HD-04 TAILGATE REPAIRS

- HD-04-1. The vessel's aluminum tailgate requires straightening, to allow proper alignment with all hinges and fasteners.
- HD-04-2. The aluminum bolt locks used to fasten the tailgate in place are to be replaced with stainless steel. The location of the bolt locks shall be relocated such that they are secured from the outside of the tailgate.
- HD-04-3. Acceptance shall be based on approval from CGTA.

HD-05 SUPERSTRUCTURE MAINTENANCE

- HD-05-1. There are two (2) plastic rain gutters fitted to the wheelhouse, port and stbd. They are each to be replaced with new materials. Each gutter is approximately six (6) feet in length.
- HD-05-2. There are roughly twelve (12) empty 5/16" bolt holes in the canopy. These holes are to be filled with aluminum weld. The filling is to be ground flush with the existing surfaces and painted with white primer.

HD-06 CRANE WINCHES

- HD-06-1. The two (2) Pullmaster crane winches are to have cables removed.
- HD-06-2. Each winch is to be surface prepped for paint, primed, and painted with two coats of marine grade white paint.
- HD-06-3. The cables are to be reattached to the winches and spooled in.
- HD-06-4. Acceptance shall based on operational tests witnessed by CGTA.

H-01 MAIN ENGINE OVERHAUL & REPOSITIONING

Intent: For contractor to remove engines, crate, and transport to and from sub-contractors facility and to assist subcontractor with reinstall.

- H-01-1. Contractor shall prepare both main engines for removal. This shall include but is not limited to: draining fluids, disconnecting pipe work, disconnecting electrical connections and removal of engines.
- H-01-2. Contractor shall supply a crane to remove both engines from vessel, crate and transport engines to subcontractor's facility.
- H-01-3. The Contractor shall include in the bid an allowance of \$40,000.00 for a Volvo Penta Factory Authorized Service Representative or a Marine Diesel Mechanic with significant experience working on Volvo diesel engines up to 1000 HP to complete all of the following work within the specified refit timeframe.
- a) Inspect and change all crankshaft bearings (mains / rods / thrusts) if required.
 - b) Inspect the crankshaft.
 - c) Inspect camshaft and replace the bearings if required.
 - d) Rebuild or replace all cylinder heads if required.
 - e) Replace all gaskets and seals
 - f) Inspect and clean the charge air cooler.
 - g) Replace the thermostats and seals.
 - h) Replace all filters including engine oil / fuel oil / air / water.
 - i) Rebuild or replace all injectors if required.
 - j) Rebuild or replace turbocharger if required.
 - k) Rebuild or replace the fresh water pump if required.
 - l) Rebuild or replace the sea water pump if required.
 - m) Inspect and clean the engine oil cooler.
 - n) Inspect the cylinder kit, which include liners / pistons / ring sets.
 - o) Inspect starter and advise on the condition.
 - p) Inspect and clean Heat Exchanger core.
 - q) Inspect oil pump and rebuild unit.
 - r) Inspect vibration damper and replace if required.
 - s) Replace flexible engine vibration mounts.
 - t) Remove the fuel injection pump and have unit inspected at an authorized repair shop.

- u) Inspect governor.
 - v) Inspect fuel pump drive, rebuild if required.
 - w) Pressure test exhaust manifold.
 - x) Inspect all flexible lines and replace as required.
 - y) Inspect all gauges and alarm senders and confirm proper operation of alarm system.
 - z) Dyno test each engine at full HP for 4 hours after overhaul to be witnessed by vessel representative.
- H-01-4. Any additional work required as a result of inspections after engine disassembly is to be approved by the Technical Authority prior to any additional repairs being carried out.
- H-01-5. While the engine is removed, contractor is to modify engine mounting as per engineered drawings/specifications provided in H-02 and Appendix A-1.
- H-01-6. All engine hoses and/or cabling is to be routed through designated bedplate girders. New chafing gear is to be installed at all potential chafe points.
- H-01-7. Contractor shall re-crate and transport engines from subcontractor's facility to contractor's facility upon completion of overhaul.
- H-01-8. Contractor shall supply a crane to re-install engines in vessel.
- H-01-9. Contractor shall re-install engines on the new mounts with the assistance of FSR if necessary.
- H-01-10. Contractor and subcontractor shall be present during initial engine start and sea trials to ensure proper engine operation and to satisfy any FSR warranty requirements.
- H-01-11. Contractor shall arrange for Transport Canada to inspect engine upon assembly.
- H-01-12. Contractor shall provide Vessel's Representative with 3 copies of all work completed and parts used during overhaul.
- H-01-13. The final cost for work completed by the engine overhaul facility will be adjusted by 1379 action upon receipt of final invoicing.
- H-01-14. Acceptance of this specification item will be based on TCMSB and CGTA approval, based on successful sea trials.

H-02 MAIN ENGINE MOUNTING AND SHAFT MODIFICATION

- H-02-1. The purpose of this specification is to modify the main engine mounting arrangement to as per Lengkeek Vessel Engineering specifications, attached as Appendix A-1.
- H-02-2. Acceptance of this item shall be determined by CGTA and TCMSB approval.

H-03 JET DRIVE MAINTENANCE

- H-03-1. Each of the two jet drives are to be disassembled and inspected for cavitation damage.
- H-03-2. All internal and external anodes (GSM) are to be replaced.
- H-03-3. Upon satisfactory inspection by both CGTA and TCMSB, jet drives are to be reassembled and installed to vessel.
- H-03-4. Any additional work required in this item shall be covered via PWGSC 1379 action. All spare parts required, with exception to nozzles, shall be GSM.

H-04 SURVEY/INSPECTION ITEMS

H-04-1. This specification is to renew all Transport Canada required inspections as required by vessel's division 3 report (Appendix A-3).

H-04-2. The following items are to be inspected and certified by a TCMSB representative:

| Item | Field # |
|-----------------------------|---------|
| 1 Underwater Hull | 3LL040 |
| 2 Storm Valves (7 total) | 3LL090 |
| 1. Engine Room | |
| 2. Fuel Compartment | |
| 3. Void | |
| 4. Cabin | |
| 5. Aft. Engine Room | |
| 6. Hatch Drains (P&S) | |
| 3 Sea Connections (2 total) | 3LL110 |
| 1. Engine Room | |
| 2. Foc'sle | |
| 4 Steering Gear Components | 3HH010 |

H-04-3. Where required, listed items are to be disconnected and laid out for TCMSB inspection. Upon satisfactory completion of inspection, all removed items are to be reinstalled.

H-04-4. A written report shall be provided to CGTA listing any defects found.

H-04-5. All defects raised in this specification are to be rectified by PWGSC 1379 action.

H-05 HYDRAULIC SYSTEM FLUSH

- H-05-1. The vessel's hydraulic system is to be fully drained and flushed.
- H-05-2. The system is to be refilled to sight glass (approximately 80L) with CGTA approved 32 weight hydraulic fluid.

H-06 HATCHES

- H-06-1. The two (2) engine room hatch cover gaskets shall be removed and replaced with new material. Gasket material is 2 inches wide, $\frac{3}{4}$ inches thick, approximately 50 feet in total length.
- H-06-2. The six (6) Freeman hatch (Model 15x24 B) gaskets shall be removed and replaced with new material.
- H-06-3. Gas spring lifting assistance mechanisms are to be fitted to each main engine hatch, as per drawing J4809-01, Appendix A-2.
- H-06-4. Care is to be taken to ensure the gas spring location and all related brackets will not interfere with the new engine placements as per spec item HD-02. Any modifications required to allow adequate clearance will be adjusted via PWGSC 1379 action.
- H-06-5. Acceptance of this item will be based on TCMSB inspection to verify proper hatch operation and gasket seal.

L-01 FLOODLIGHTS

- L-01-1. There are two (2) floodlights located on the aft deck. They are to be replaced with Stright Mackay Cat # 31-577A type floodlights.
- L-01-2. Three (3) new floods (Stright Mackay Cat # 31-576A) are to be installed; one (1) on the long boom and two (2) short boom. Each boom presently has a single halogen lamp, which is to be removed. The mounting of the lamps shall be
- L-01-3. Each boom mounted flood is to be mounted to a bracket (to be fabricated by contractor), to allow the floods to swing and direct light downwards, no matter the boom angle.
- L-01-4. Final mounting position of the floodlights shall be near the head of the booms (one on each side on the short boom), and will not interfere with any existing structure or equipment when raising and lowering the boom from its crutch.
- L-01-5. The existing conduit installed on short boom is to be replaced with new $\frac{3}{4}$ " conduit.

APPENDIX A

A-1 – Lengkeek Marine Engineering Ltd.



J13050-R01-Rev0
Engine Realignment S

A-2 – A.F. Theriault Hatch Arrangement Modification

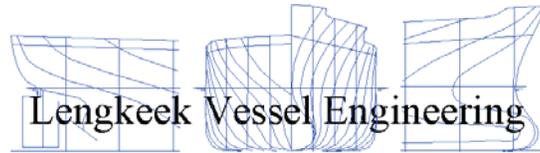


J4809-01 - Proposed
Hatch Arrangement M

A-3 – Transport Canada Division 3 Report



439064783.pdf0.pdf



"CCGS Cape Light" Specification for Engine Relocation And Alignment

For
Department of Fisheries & Oceans /
Canadian Coast Guard



Prepared By:
Lengkeek Vessel Engineering Inc.
Report Number: J13050-R01, rev 0
Date: 12/08/2013

| | |
|--------------------------|--------------------|
| <i>Prepared By:</i> | <i>D. Careless</i> |
| <i>Checked By:</i> | <i>T. Newbury</i> |
| <i>LVE Form 67, rev0</i> | |

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| | 13 |

PART I - GENERAL

.1 Specification Details

Scope of Work

This specification covers the work to be completed onboard the Canadian Coast Guard vessel “Cape Light” in order to relocate and realign the engines and gearboxes to provide additional clearance between the Engine Room forward bulkhead at Frame 13 and the forward end of the engines, to improve the clearance between the tops of the engines and the underside of the existing hatch covers, and to improve the shaft alignment between the Water Jets and the engines/gearboxes. The relocation shall necessitate the replacement of the existing cardan and stub shafts between the gearboxes and existing Water Jet units with new cardan shafts. The relocation of the engines shall require modifications to the existing engine girders, as the doubler plates directly in way of the engine mounts shall move aft also.

The scope is to relocate the engines and gearboxes further aft and slightly lower than in their present location; based on preliminary sketches, a relocation of approx. 175mm (7”) further aft and approx. 11mm (0.43”) lower can be achieved, which will allow for the fitting of a custom made cardan shaft approx.. 305mm (12”) long, between the output flange of the gearbox and the coupling on the forward end of the Water Jet unit. The relocation shall take into account the final angle of the cardan shaft, which shall be the same at each end, and shall be within the tolerances as specified by the shaft manufacturer.

Although relocation of the engines and gearboxes slightly aft and lower down is desired, there is a necessity to maintain adequate clearance between the sump of the relocated engines and the existing bottom structure of the vessel. Relocation of the engines shall involve the temporary removal of some existing equipment, hoses, cabling and/or piping in the Engine Room to gain access to the areas which shall require modification.

General Instructions

This specification shall be read in conjunction with the guidance sketches produced to give a general overview of the modifications that will be required to be undertaken to suit the new installation. The specification and the sketches, which are included as Appendices to the specification, indicate the extent of work to be carried out, and the use and location of specific materials.

Wherever the words “approved by”, “equivalent” or similar phrases are used in this specification they shall be understood to mean the material, process, or item referred to shall require the written approval of the manufacturer, and shall meet all standards as listed in “References” below.

Approval from the Client is required if the Contractor wishes to deviate from any of the specified methods or recommended materials.

References

CSA W47.2-11, Certification of Companies for Fusion Welding of Aluminum

CSA W59.2-M1991 (R2008), Welded Aluminum Construction

AWS D3.7:2004, Guide for Aluminum Hull Welding

CSA SOR/2010-91, Canada Shipping Act – Small Vessel Regulations

CSA 57, Canada Shipping Act – Safe Working Practices Regulations

MOSHR, Canada Labour Code – Marine Occupational Safety and Health Regulations

Note: In case of conflict between any of the standards, then the most stringent requirements will prevail.

1 GENERAL NOTES

1.1 On-site project officer:

- .1 All work to be completed to the satisfaction of the On-site Project Officer who, unless otherwise advised, will be the Chief Engineer of the ship, or his designated representative.
- .2 Upon completion of each item of the specification, the Chief Engineer shall be notified so that he may inspect the work prior to the complete closing up of any work.
- .3 Failure to give notification does not absolve the Contractor of the responsibility of providing the Chief Engineer with the opportunity to inspect any item.
- .4 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).

1.2 Safety

- .1 There is a safety annex attached to this specification entitled “FLEET SAFETY MANUAL REQUIREMENTS”. In addition to the detailed requirements within the specification, this annex contains excerpts from the document DFO 5737, “FLEET SAFETY MANUAL”, that are applicable to contracted refit and dry-docking situations.
- .2 All contracted work shall be conducted in compliance with the requirements of the Canada Labour Code, Part 2.

- .3 Potential Contractors shall include with their bids the name of their Safety Manager or Supervisor who will ensure that these requirements for workplace safety are met
- .4 NOTE: Under the Canada Labour Code, Part 2, the Coast Guard has an obligation to exercise due diligence to ensure the safety of Contractors' workers as well as the ship's crew.

1.3 Sub-contractors

- .1 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.

1.4 Chemist's Certificates

- .1 The Contractor shall supply the 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.
- .2 Certificates shall clearly state the type of work permitted and shall be renewed as required by the regulations.
- .3 The Contractor and his sub-Contractors are advised that any work carried out in confined spaces as defined by the Canada Labour Code (CLC) and relevant provincial legislation must fully comply with all provisions therein.

1.5 Duration of Scheduled Work

- .1 The Contractor shall provide sufficient personnel, material, and equipment resources to complete the specified work, within the period of the contract.
- .2 Extra effort required due to the Contractor's failure to maintain his production schedule will not be paid for by CCG.

1.6 Protection

- .1 The Contractor shall provide adequate temporary protection for any equipment or areas affected by his work.
- .2 The Contractor shall take proper precautions to maintain in a proper state of preservation any machinery, equipment, fittings, stores or items of outfit which might become damaged by exposure, movement of materials, paint, sand, grit or shot blasting, airborne particles from sand, grit or shot blasting, welding, grinding, burning, gouging and painting.
- .3 Any damage shall be the responsibility of the Contractor.

1.7 Welding

- .1 The Contractor shall be currently certified by the Canadian Welding Bureau in accordance with Standard W47.2-11 "Certification of Companies for Fusion Welding of Aluminum".
- .2 All personnel performing aluminum welding and production facilities shall be approved by the Canadian Welding Bureau.
- .3 Welding shall not be carried out at a temperature lower than +5 degrees Celsius. Weld preparation and cleaning shall be conducted immediately prior to welding.
- .4 Delays in welding following preparation and cleaning shall necessitate the preparation and cleaning to be conducted again. The Contractor shall define the environmental limits (e.g. maximum humidity levels) at which welding can be performed and still meet quality requirements.
- .5 Welding materials shall be to CSA W59.2-M1991 (R2008) (Aluminum).

1.8 Auxiliary Services

- .1 Contractor shall include in the quotation the costs of any and all transportation, rigging, staging, slinging, craning, removals, and installations of parts and equipment such as may be required to carry out work.

1.9 Service Conditions

- .2 All materials supplied and work carried out by the Contractor shall be adequate to meet service conditions of outside air temperature of minus (-) 40⁰ C to plus (+) 35⁰ C; for exterior installations.
- .3 All materials supplied and work carried out by the Contractor shall be adequate to meet service conditions of wind velocity of 50 knots; for exterior installations.
- .4 All materials supplied and work carried out by the Contractor shall be adequate to meet service conditions of water temperature of minus (-) 2⁰ C to plus (+) 30⁰ C; for exterior installations.
- .5 All materials supplied and work carried out by the Contractor shall be adequate to meet service conditions of shock loading of 2.5g horizontal, 1.5g vertical; for all installations.

1.10 Hot Work & Fire Watches

- .1 Any item of work involving the use of heat in its execution requires that the Contractor advise the Chief Engineer prior to starting such heating and upon its completion.
- .2 The Contractor shall provide sufficient suitable fire extinguishers and a fire watch during any heating and until the work has cooled.
- .3 Ship's extinguishers are not to be used except in an emergency.

1.11 Relocations

- .1 Any piping, manholes, parts and/or equipment requiring removal to carry out specified work and/or to gain access shall be refitted upon completion with new jointing, anti-seize compound, clamps and brackets as applicable (Contractor supply).

1.12 Temporary Lighting & Ventilation

- .2 Temporary lighting and/or temporary ventilation required by the 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.

1.13 Vessel Cleanup

- .1 The principal work areas, as defined by this specification, shall be cleaned to "as new condition" on completion of the contracted work.
- .2 The Contractor shall ensure that all spaces, compartments and areas of the ship outside of the principal areas of work are "as clean as found" when work is completed.

1.14 Materials & Tools

- .1 All materials, unless otherwise specified, to be supplied by the Contractor.
- .2 Contractor to supply all necessary tools to perform specified work.
- .3 Ship's tools and equipment will not be available for Contractor's use except for specialty tools that will be issued by and returned to the Chief Engineer in good condition.

1.15 Fire Safety Systems

- .1 Whenever any work is being carried out involving a ship's firefighting or fire detecting system, it shall be done in such a way as to leave the vessel and any persons aboard with adequate protection against fire at all times. This may be so accomplished by the removal or disarming of only a Portion of the system at a time, by replacement with

spares while work is in progress or by other reasonable means acceptable to the Chief Engineer.

1.16 Smoking

- .1 The Public Service Smoking Policy forbids smoking in Government ships in all areas inside the ship where Contractor personnel will be working.
- .2 Contractor shall inform workers of the smoking policy and ensure that it is complied with in all cases.

1.17 Access

- .1 Contractors to ensure that no workers bring meals onboard the ship.

1.18 Installation Facilities

- .1 The successful Contractor shall have the work carried out in a permanent, heated and environmentally controlled fabrication facility on the east coast of Canada and shall be designated for aluminum only.
- .2 All aluminum plates and/or shapes shall be stored in a similar dry, climate controlled environment completely separate from any other material. All aluminium welding shall be performed in a facility and environment that isolates the process from any form of contamination.
- .3 Temporary type fabrication enclosures will not be acceptable.

1.19 Dockside Cleanup

- .1 The Contractor is responsible for the complete cleanup of adjacent dock areas used by his personnel and/or equipment during and after completion of the contracted work. This shall include, but not be limited to the following:
 - 1) Removal of all dirt, grit and debris;
 - 2) Removal of all staging, containers and equipment
 - 3) Immediate cleanup and legal disposal of any leaked oils, solvents or other hazardous materials.

PART II – STRUCTURAL & MECHANICAL / OUTFIT REMOVALS

.2 Relevant Documents

Drawings/Sketches

See Appendix ‘A’ of this Specification.

.3 Material Requirements

Equipment/Material Required

The Contractor shall supply all material required, including any material required to complete the work which is not explicitly identified in this specification. See also applicable guidance drawings for material requirements.

.4 Mechanical / Outfit Removals

The existing stub shaft and cardan shaft arrangement between the Water Jet units and the gearboxes shall be disconnected and removed. The existing power take-off attached to the forward end of the starboard engine shall be disconnected and removed.

The engine and gearbox hold down bolts shall be unfastened, as the engines and gearboxes shall need to be relocated once the support girders have been modified. A decision shall have to be made on-site by the Contractor in consultation with the Owner to determine whether or not the modifications to the engine girders can be carried out with the engines blocked up clear of the girders, or whether they will have to be removed from the vessel entirely while the girder modification work is carried out.

Space in the Engine Compartment is extremely tight, although with the hatch covers removed it may be possible to block the engines up sufficiently to carry out the girder modification work.

Piping and /or cabling related to the engines shall be temporarily disconnected and removed or pulled back away from the work area prior to engine relocation.

All other cabling, tubing, piping, etc. in way of structural modifications shall be either disconnected and removed for storage or pulled back away from the work area as far as practical and suitably secured and protected from any cutting and welding.

.5 Engine Girder Structural Removals

The current engine arrangement has the aft mounting feet of both engines/gearboxes bolted to heavy doubler plates that were welded to the tops of the engine girders. The Contractor shall allow for the removal of existing doubler plate structure and the installation of new doublers at locations to suit the relocated mounting feet of the

engines/gearboxes (see ‘Structural Renewals’ section of this specification.) The pads would have to be cut free at their present location, and the affected areas of the engine girders ground smooth

The forward mounting feet of the two engines currently land on shim plates positioned on top of the engine girder flanges. These existing shim plates shall be replaced with similar sized plates of a thickness to suit the new engines locations and alignment, and new bolt holes drilled through the engine girder flanges at the applicable locations.

Once the new engine locations have been determined, the forward relocated engine mounts will require new transverse bracket underneath the engine girder top flanges. The existing brackets in way of the bolts shall remain in place unless there may be clearance issues with the new locations of the holding down bolts. See the sketch attached as an Appendix to this specification for clarification.

Contractors should note that there is a definite requirement to not interfere with the boat’s existing bottom structure, other than the engine girders that shall require modification or new brackets, as described above. The existing stiffening structure of the vessel’s bottom plating is not to be cut or modified in any way without prior consultation with the Owner’s representative and/or the Technical Authority representative.

Refer to the guidance sketch in Appendix ‘A’ of this specification for specific structural relocation details.

PART III – STRUCTURAL RENEWALS

.7 Relevant Documents

Drawings/Sketches

See Appendix 'A' of this Specification.

.6 Material Requirements

Equipment/Material Required

All new aluminum plate shall be minimum 5083-H321 and aluminum shapes shall be minimum 6061-T6 or equivalent. All aluminum used in the modifications to the engine support girders of the vessel shall be supplied with both material and test certificates.

The Contractor shall supply all material required, including any material required to complete the work which is not explicitly identified in this specification. See also applicable guidance drawings for material requirements.

.7 Structural Installation

General

All work shall be consistent with Transport Canada Marine Safety standards and all applicable standards as listed in the References section of this Technical Statement of Requirement. Work shall be consistent with good boatbuilding practice where standards are not applicable. The work shall be conducted to the satisfaction of the designated approval authority.

Any new aluminum plates and/or shapes required shall be stored in a dry, climate controlled environment completely separate from any other material. All aluminium welding shall be performed in a permanent facility and environment that isolates the process from any form of contamination. Weld preparation and cleaning shall be conducted immediately prior to welding. Delays in welding following preparation and cleaning shall necessitate the preparation and cleaning to be conducted again. The Contractor shall define the environmental limits (e.g. maximum humidity levels) at which welding can be performed and still meet quality requirements.

Any contact between aluminum and any other metal component shall be isolated. Nylon type shoulder washers shall be used to isolate any nuts and bolt heads from aluminium.

New and disturbed aluminum work that is intended to be painted shall be painted in accordance with the existing paint scheme of the vessel and the applicable Canadian

Coast Guard Paint Specification. Preparation and application of coatings shall be in accordance with the manufacturer's instructions.

Engine Girder Modifications

The Contractor shall be aware that the revised arrangement of the main engines/gearboxes, slightly aft from their current location, shall necessitate the installation of doubler plates under the aft feet, as per the current arrangement. The fact that the intention is to relocate the engines slightly aft and lower than at present will mean that new doubler plates of different thickness shall be required, but the final thickness is a determination that will have to be made on site once the engine/gearbox alignment and location is finalised.

The current engine arrangement has the aft mounting pads of each engine/gearbox bolted to doubler plates welded to the top of the engine girder flange. If at all possible, these existing doubler plates may be able to be reused. They will need to be removed from their current positions (see the 'Structural Removals' section of this specification) and rewelded at the new locations. Due to the proposed lowering of the engines, there is a possibility that the doubler plates required, once the engines are relocated, may not need to be as thick as they are at present. In the case of the aft doubler plates, should they need to be of lesser scantling than the existing, they shall be replaced by new plates of thinner material. The exact thickness of doubler plates shall be determined on site once the engines have been relocated and aligned to their new positions.

Any new doubler plates shall be welded to the existing engine girder top flanges using full penetration bevel type welds. Also, new shim plates can be used to suit the final location of the gearbox isolation mounts following final alignment.

The forward mounting pads of each engine are bolted directly to the top flange of the engine girder, with a shim plate between where necessary. Relocation of the engines slightly aft shall require new mounting holes to be drilled in the engine girder top plate, and possibly new shim plates, depending on the final location and finished height of the relocated engines. All new bolt holes and their locations shall be templated from the existing mounts and drilled through.

As described in the Structural Removals section of this specification, relocation of the engines and subsequent modifications to the engine mount support structure may result in the necessity to install new transverse plate brackets clear of the engine holding down bolts.

All welding of new plates to the existing framing structure shall be carried out using full penetration bevel type butt welds. All other welding to engine girder and hull bottom shall be continuous fillet welds.

The existing shim plates used in way of the inboard and outboard gearbox isolation mounts can be reused, if possible.

Hatch Covers

The Contractor shall be aware that it is imperative that once the engines/gearboxes are relocated, there shall be no impediment to prevent proper and tight closing of the hatch covers. Although it is not anticipated, slight modification to the stiffening structure shall be undertaken by the Contractor to achieve correct closing of the hatch covers should it be necessary. Clearances shall be checked prior to final engine/gearbox alignment and the completion of any structural modifications for engine mounting.

.8 Mechanical / Outfit Installation

Engine/Gearbox/Cardan Shaft

Once the structural modifications have been carried out to support the main engines and gearboxes in their revised locations, and the items are located in the desired positions on the modified girders, at that point accurate on-site dimensions can be taken and the new cardan shafts between the gearboxes and the Water Jet units can then be sourced and fitted. The cardan shafts shall be fitted as per the layout in the sketches that form Appendix 'A' of this specification, and shall be in a 'Z' configuration, within the allowable range of angles recommended by the shaft and water jet manufacturer, and with the same offset angle at each end.

All mechanical/outfit components that have been temporarily removed and/or relocated to enable the engines and gearboxes to be relocated shall be reinstalled in the compartment at their correct locations. Any piping/tubing, electrical cabling, hydraulic hoses, equipment, etc that had to be removed and/or pulled back in way of the work area shall be reinstated to their original condition. Existing shaft protection guard structure shall be modified to suit any necessary changes.

All miscellaneous pieces of equipment that were mounted on or near the engine girders and/or hull framing that were removed shall be reinstalled as per the original arrangement.

Power Take-Off Cardan Shaft

A new cardan shaft shall need to be sourced to suit the power take-off at the forward end of the starboard main engine. When the engine has been relocated on its foundation, then a determination can be made of the length of the new cardan shaft required. Additional structural modifications of the bulkhead penetration may be required as well at that time.

PART IV – INSPECTION AND TRIALS

General

The work shall be carried out to the satisfaction of the Owner's representative and/or the Technical Authority representative.

Inspections

Inspections shall be carried out by the Owners Representative and/or the Technical Authority Representative. The representative shall conduct a final inspection to determine acceptance of the work. The work shall also be inspected by the Contractor to ensure the methods of installation and workmanship conform to the drawings and specification.

The proper functioning of any existing items that were removed and reinstalled and any new items shall be demonstrated to Owners Representative or designated representative of the vessel who will be responsible for the operation of the equipment.

A physical inspection of all welding of new and modified structure shall be carried out by the Contractor to ensure that all welds are satisfactory and contain no visible defects or deficiencies.

Non-destructive examinations of a sample of welds shall be undertaken by professional personnel qualified to do so, and the results made available to the Owners Representative. Any unacceptable defects shall be completely removed and where necessary, re-welded. The repair shall be examined after re-welding.

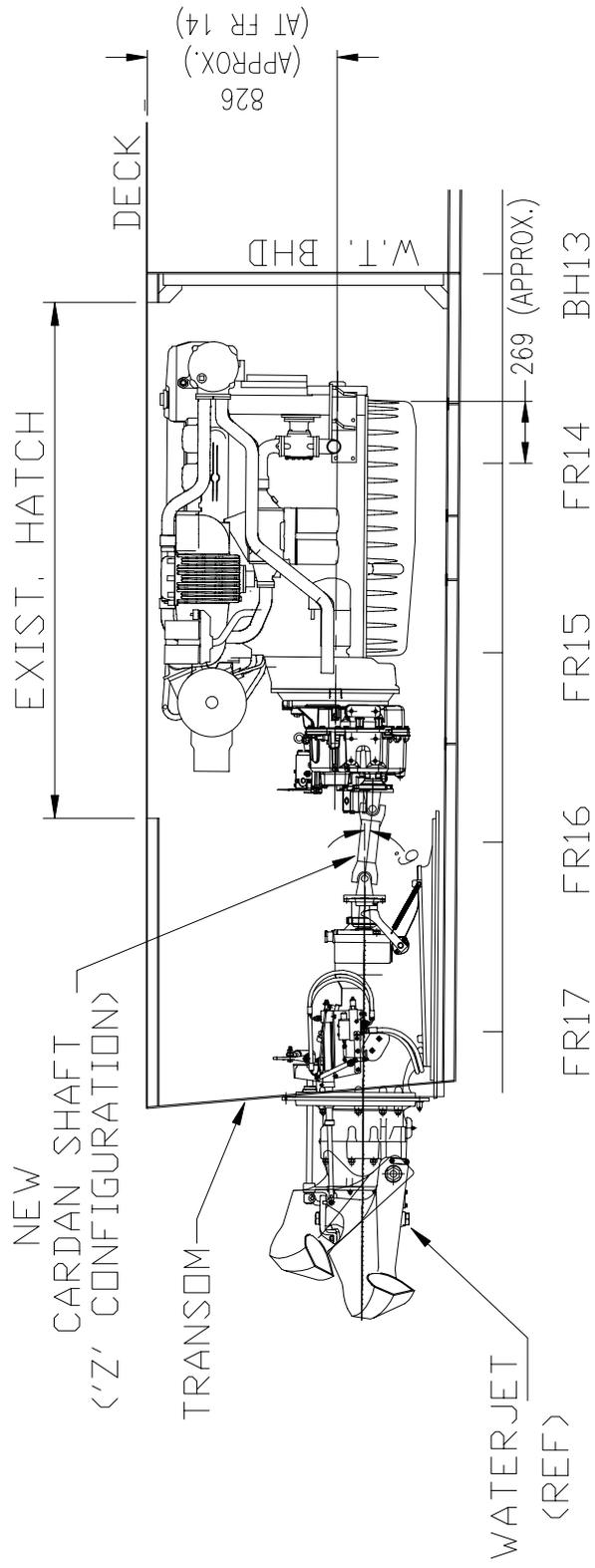
Trials

Trials shall be carried out to ensure that any mechanical or electrical items of outfit that may have been disturbed or disconnected during the modifications have been properly reconnected and are fully operational, as well as being fully compliant with all applicable codes and regulations.

APPENDIX 'A'

Guidance Sketches of Proposed Modifications

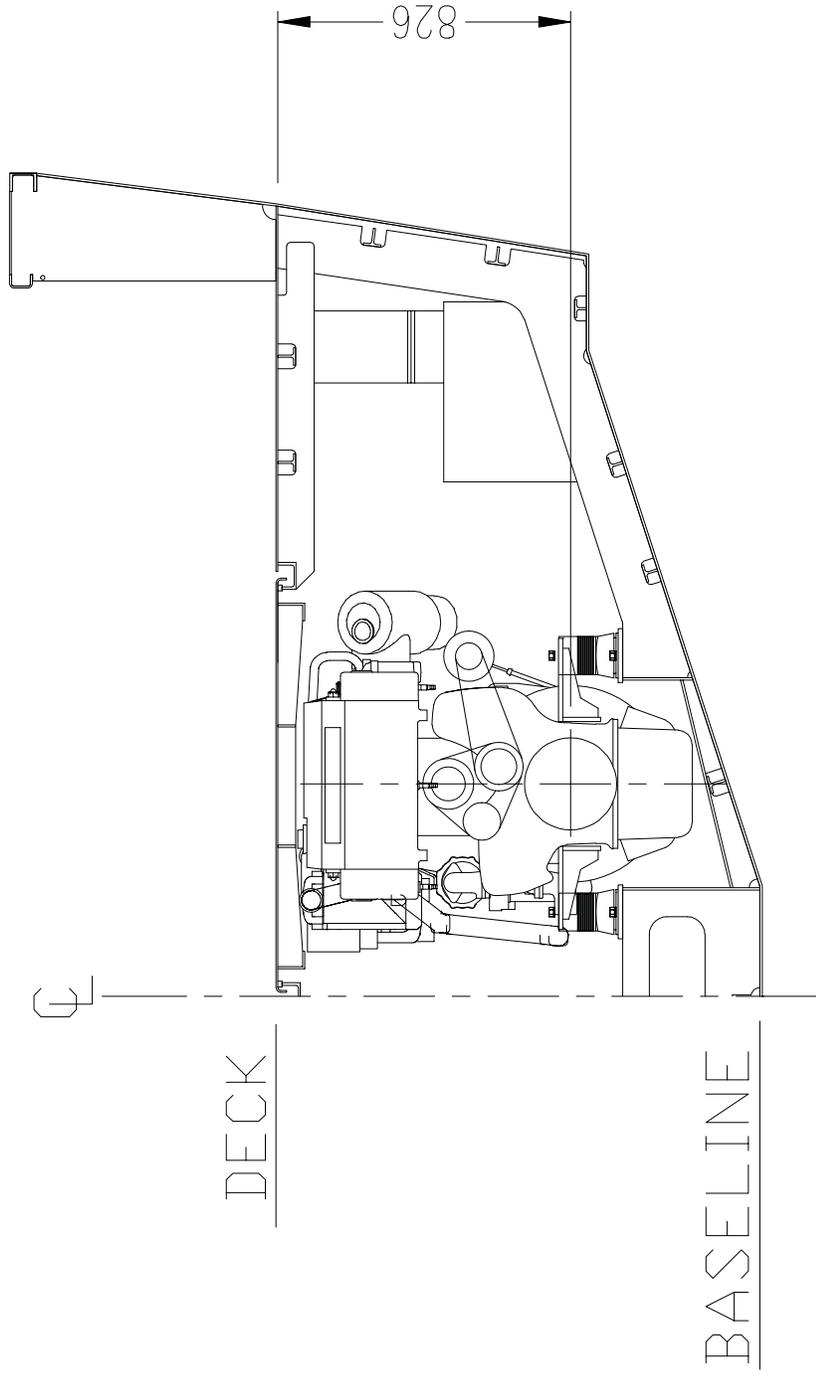
| | |
|--------------|---|
| J13050 – SK1 | Elevation i.w.o. Relocated Engine (with Cardan Shaft Arrangement) |
| J13050 – SK2 | Section i.w.o. Relocated Engine (at approx.. Frame 14) |
| J13050 – SK3 | Plan at Engine Girders (As Existing) |
| J13050 – SK4 | Plan at Engine Girders (As Proposed) |



ELEVATION I.W.O. RELOCATED ENGINE/GEARBOX

PORT AND STBD SIMILAR

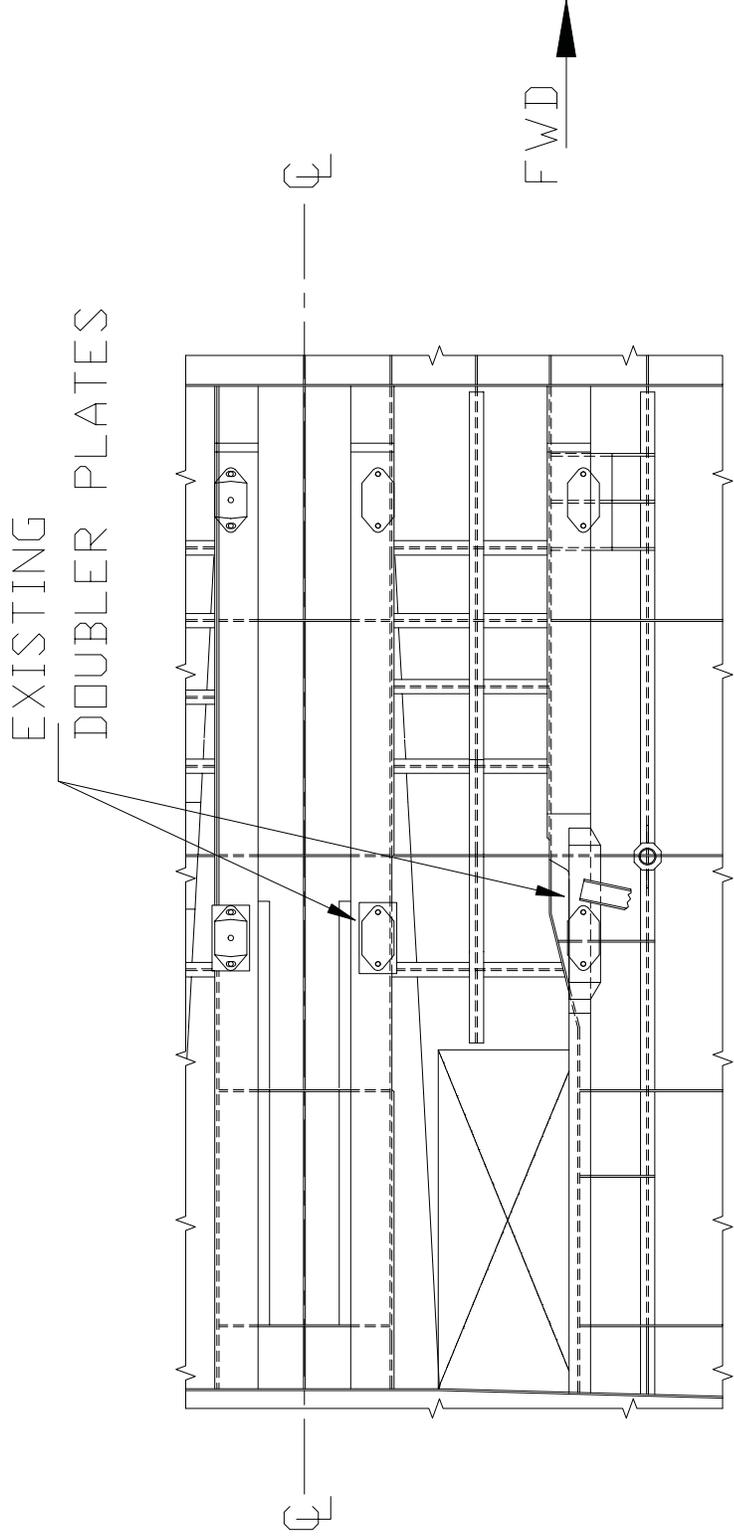
J13050-SK1



SECTION I.W.O. RELOCATED ENGINE

(AT APPROX. FRAME 14)

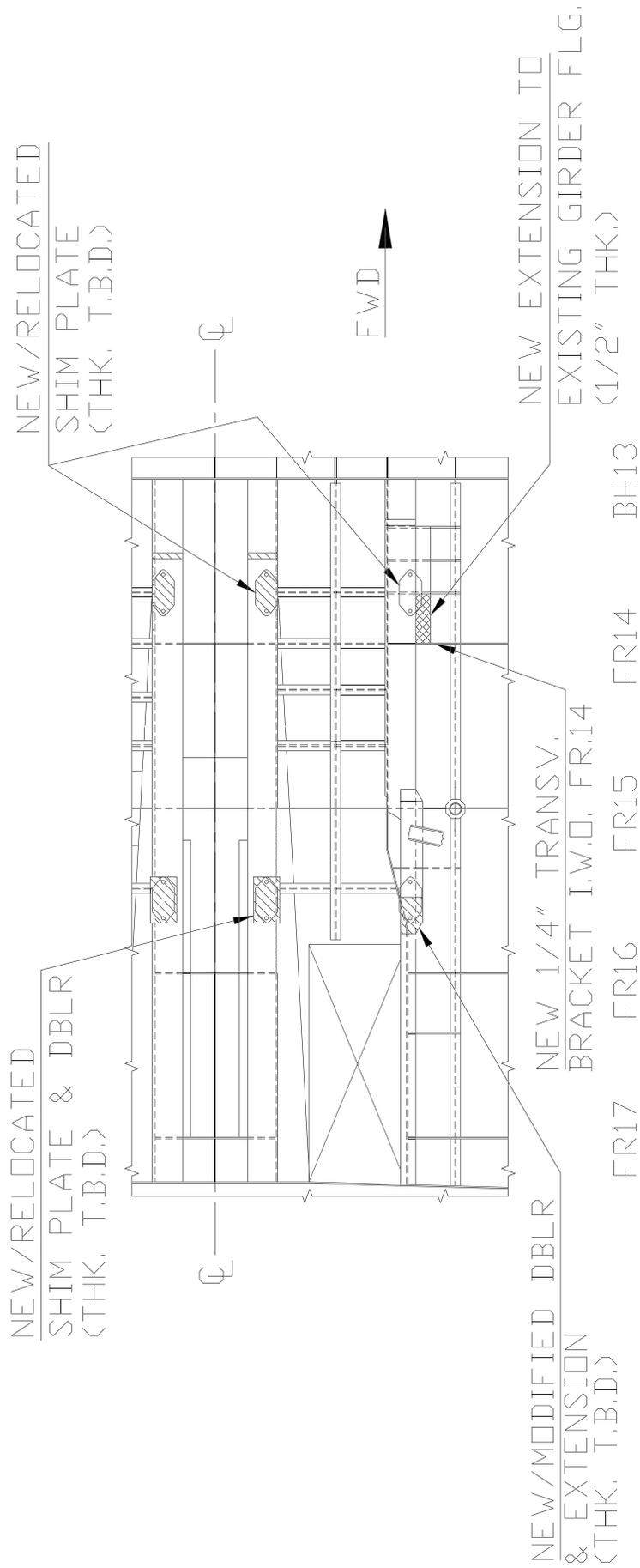
J13050-SK2



PLAN AT ENGINE GIRDERS

I.W.O. ENGINE MOUNTS (AS EXISTING)
 (STBD SIDE SHOWN, PORT SIM
 TO OPP. HAND)

J13050-SK3



PLAN AT ENGINE GIRDERS

I.W.O. ENGINE MOUNTS (AS PROPOSED)
 (STBD SIDE SHOWN, PORT SIM
 TO OPP. HAND)

J13050-SK4

