Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Bid Receiving - PWGSC / Réception des soumissions - TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage , Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

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

Title - Sujet CCGS Caribou Isle	
Solicitation No. - N° de l'invitation F2599-185094/A	**Date** 2018-10-17
Client Reference No. - N° de référence du client F2599-185094	**GETS Ref. No. - N° de réf. de SEAG** PW-$$MD-040-27024
File No. - N° de dossier 040md.F2599-185094	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2018-11-16**	**Time Zone** **Fuseau horaire** Eastern Standard Time EST
F.O.B. - F.A.B. **Plant-Usine:** ☑ **Destination:** ☐ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Abbas, Haitham	**Buyer Id - Id de l'acheteur** 040md
Telephone No. - N° de téléphone (873) 469-4678 ( )	**FAX No. - N° de FAX** ( ) -
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

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

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**	

Issuing Office - Bureau de distribution
Ship Refits and Conversions / Radoubss et modifications de navires and / et
11 Laurier St. / 11, rue Laurier
6C2, Place du Portage
Gatineau, Québec K1A 0S5

Canada

PART 1 - GENERAL INFORMATION

1.1 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 and states that the Bidder agrees to be bound by the clauses and conditions contained in all parts of the bid solicitation;

Part 3: Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;

Part 4: Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, if applicable, and the basis of selection;

Part 5: Certifications: includes the certifications to be provided;

Part 6: Financial and Other Requirements: includes specific requirements that must be addressed by bidders; and bid

Part 7: Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting Contract.

The Annexes include the Technical Specification, the Basis of Payment, the Insurance Requirements and other Annexes.

1.2 Summary

1.2.1 The Requirement is described in the article 7.1 of this solicitation and detailed in Annex A – Statement of Work.

1.2.2 The resulting Contract will include options to complete the same requirements on up to two additional vessels

1.2.3 As per the Integrity Provisions under section 01 of Standard Instructions 2003 bidders must provide a list of all Owners and/or Directors and other associated information as required. Refer to section 4.21 of the Supply Manual for additional information on the Integrity Provisions.

1.2.4 The requirement is exempt from the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), Annex 4 and the North American Free Trade Agreement (NAFTA), Chapter Ten Annex 1001.2b Paragraph 1(a). However, it is subject to the Canadian Free Trade Agreement (CFTA). The sourcing strategy relating to this procurement will be limited to suppliers in Eastern Canada, in accordance with Shipbuilding, Refit, Repair and Modernization Policy (2010-08-16).

1.2.5 There is a mandatory site visit associated with this requirement. Consult Part 2 – Bidder Instructions.

1.2.6 This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further

information.

1.3 Debriefings

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

1.4 Security Requirements

There is no security requirement applicable to the solicitation.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

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 (2018-05-22) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.2 Submission of Bids

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

Due to the nature of the bid solicitation, bids transmitted by facsimile to PWGSC will not be accepted.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 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.

Any clarifications or changes to the bid solicitation resulting from the questions and answers will be included as an amendment to the bid solicitation.

2.4 Applicable Laws

1. Any resulting Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

2. 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.

2.5 Optional Bidders' Conference

A bidders' conference will be held at CCG Base of Parry Sound, 28 Waubeek St, Parry Sound, ON P2A 1B9. The conference will take place immediately after the Mandatory Site Visit Described in this document. 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 name(s) of the person(s) who will be attending and a list of issues they wish to table no later than October 26th, 2018 16:00 EDT.

Any clarifications or changes to the bid solicitation resulting from the bidders' conference will be included as an amendment to the bid solicitation.

2.6 Mandatory Site Visit – Vessel

It is mandatory that the Bidder or a representative of the Bidder visit the work site. Arrangements have been made for the site visit to be held at CCG Base of Parry Sound, 28 Waubeek St, Parry Sound, ON P2A 1B9 on October 30, 2018. The site visit will begin at 9:00 EDT.

Bidders must communicate with the Contracting Authority no later than October 26th, 2018 16:00 EDT to confirm attendance and provide the name(s) of the person(s) who will attend. Bidders will be required to sign an attendance sheet. Bidders should confirm in their bid that they have attended the site visit. Bidders who do not attend the mandatory site visit or do not send a representative will not be given an alternative appointment and their bid will be declared non-responsive. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

2.7 Work Period

The start date of the work has not yet been determined but will be around January 7, 2019 and the work must be completed by March 8, 2019.

2.8 Additional Instructions - Work Period

1. From refit start date to the end of the work period, when the vessel will be unmanned during that period, it will be considered to be out of commission and it will be in the care and custody of the CCG and under its control.

2. By submitting a bid the Bidder certifies that they have sufficient material and human resources allocated or available and that the work period outlined in 2.7 Work Period is adequate to both complete the known work and absorb a reasonable amount of unscheduled work.

PART 3 - BID - PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

(a) If the Bidder chooses to submit its bid electronically, Canada requests that the Bidder submits its bid in accordance with section 08 of the 2003 standard instructions. Bidders must provide their bid in a single transmission. The epost Connect service has the capacity to receive multiple documents, up to 1GB per individual attachment.

The bid must be gathered per section and separated as follows:

Section I: Technical Bid
Section II: Financial Bid
Section III: Certifications
Section IV: Additional Information

(b) If the Bidder chooses to submit its bid in hard copies, Canada requests that the Bidder submits its bid in separately bound sections as follows:

i. Section I: Technical Bid (1 hard copies and 1 soft copies on USB key)
ii. Section II: Financial Bid (1 hard copies and 1 soft copies on USB key)
iii. Section III: Certifications (1 hard copies and 1 soft copies on USB key)
iv. Section IV: Additional Information (1 hard copies and 1 soft copies on USB key)

If there is a discrepancy between the wording of the soft copy on electronic media and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

(c) If the Bidder is simultaneously providing copies of its bid using multiple acceptable delivery methods, and if there is a discrepancy between the wording of any of these copies and the electronic copy provided through epost Connect service, the wording of the electronic copy provided through epost Connect service will have priority over the wording of the other copies.

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

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

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

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

i. use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and/or containing minimum 30% recycled content; and;
ii. 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: Technical Bid

The Bidder must provide all of the deliverables as referenced in Annex "J1" Deliverables/Certifications.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the instructions in this solicitation and the Financial Bid Presentation Sheet in Annex “H”, including its Pricing Data Sheets, Appendix 1 of Annex “H”. The total amount of Applicable Taxes must be shown separately.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

3.1.1 Exchange Rate Fluctuation

C3011T (2013-11-06), Exchange Rate Fluctuation

3.2 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex K Electronic Payment Instruments, to identify which ones are accepted.

If Annex K Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

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

Section I - Technical Bid / Certifications

Each bid will be reviewed to determine whether it meets the mandatory requirements of the bid solicitation. Any element of the bid solicitation identified with the words “must” or "mandatory” is a mandatory requirement. Bids that do not comply with each and every mandatory requirement will be declared non-responsive and disqualified. The mandatory requirements are as follows:

(a) Mandatory deliverables that must be submitted with the Bidder's bid to be deemed responsive are summarized in Annex "J1";
(b) All specifications detailed in Annex A

Section II - Financial Bid

In order to be compliant, the Bidder's bid must, to the satisfaction of Canada, meet all requirements and provide all information required under Part 3, Section II - Financial Bid.

Canada reserves the right to request information to support any bid requirement. The Bidder is instructed to address each requirement in sufficient depth to permit a complete analysis and assessment by the Evaluation Team. The Bid will be deemed responsive if it is found to meet all the mandatory requirements.

Section III - Certifications

Bidders must provide the required certifications and additional information in Part 5.

4.1.1 Evaluation of Price

The price of the bid will be evaluated in Canadian Dollars, Applicable Taxes excluded, DDP destination, Canadian customs duties and excise taxes included.

4.1.2 Unscheduled Work and Evaluation Price

In any vessel refit, repair or docking Contract, unscheduled work will arise after the vessel and its equipment is opened up and surveyed.

An estimated cost for the unscheduled work must be included in the bids. The total global price will be calculated by including an estimated amount of additional person-hours (and/or material) multiplied by a firm hourly charge-out labour rate for unscheduled work and will be added to the firm price for the known work.

The total global cost named «evaluation price» will be used for evaluating the bids. The estimated work will be based on historical experience and there is no minimum or maximum amount of unscheduled work nor is there a guarantee of such unscheduled work.

4.2 Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price as per the formula included in **H1 Price for Evaluation**, Annex H will be recommended for award of a Contract.

Bidders should note that all Contract awards are subject to Canada's internal approvals process, which includes a requirement to approve funding in the amount of any proposed Contract. Notwithstanding that a Bidder may have been recommended for award of Contract, issuance of any Contract will be contingent upon internal approval in accordance with Canada's policies. If such approval is not given, no Contract will be awarded.

4.3 Deliverables after Contract Award

For details refer to Annex J – Deliverables / Certifications – J2 Deliverables after Contract Award.

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and associated information to be awarded a

Contract. The certifications provided by bidders to Canada are subject to verification by Canada at all

times.
Canada will declare a bid non-responsive, or will declare a Contractor in default in carrying out any of its obligations under the Contract, if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the Contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority may render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Associated Information

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01- Integrity Provisions - Bid of SACC 2003 (2018-05-22) Standard Instructions - Goods or Services - Competitive Requirements. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

Refer to Annex "J1" for Deliverables/Certifications

5.1.2 Education and Experience

The Bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the Bidder to be true and accurate. Furthermore, the Bidder warrants that every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting Contract.

Refer to Annex "J1" for Deliverables/Certifications

5.1.3 Status and Availability of Resources

The Bidder certifies that, should it be awarded a Contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon

request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability. Failure to comply with the request may result in the bid being declared non- responsive.

Refer to Annex "J1" for Deliverables/Certifications

5.2 Certifications Precedent to Contract Award and Additional Information

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

5.2.1 Integrity Provisions – Required Documentation

In accordance with the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique- policy-eng.html). The Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

PART 6 - FINANCIAL AND OTHER REQUIREMENTS

6.1 Financial Capability – N/A

6.2 Contract Financial Security- N/A

6.3 Vessel Transfer Costs – N/A

6.4 Docking Facility –N/A

6.5 Workers' Compensation - 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 with the bid, a certificate or letter from the applicable Worker's Compensation Board confirming the Bidder's good standing account. Failure to comply with the request may result in the bid being declared non-responsive.

Refer to Annex "J1" for Deliverables/Certifications.

6.6 Valid Labour Agreement

If the Bidder has a labour agreement, or other suitable instrument, in place with all its unionized labour, it must be valid for the proposed period of any resulting Contract. Documentary evidence of the agreement or suitable instrument must be provided on or before bid closing date. If this information is not provided with the bid it will render the bid non-responsive.

Refer to Annex "J1" for Deliverables/Certifications

6.7 Preliminary Work Schedule

At the time of bid closing the Bidder must submit to Canada one (1) copy of a preliminary work schedule in a Gantt chart format elaborated with the software MS Project 2013 or equivalent. The schedule must highlight the target dates listed in this document and all priced work items listed in Annex H. For purposes of the schedule, the bidder will assume that the work period is as described in Article 2.7 Work Period with the start date of installation on Jan 7 ,2019. These dates will be used for evaluation only.

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

a. Commencement of Work
b. All priced work items listed in Annex H Appendix 1
c. Dock Trials Period
d. Completion of Work

Refer to Annexes "J1" and “J2”, Deliverables/Certifications.

6.8 Safety Measures for Fueling and Disembarking Fuel – N/A

6.9 ISO 9001:2008 - Quality Management Systems

The Bidder shall have in place a Quality Management System registered to ISO 9001:2008 or a Quality Management System modeled on ISO 9001-2008 and shall provide at time of bid closing:

- If registered its valid ISO 9001-2008 certification;
- Example of Quality Control Plan (QCP) as per clause 6.17.

Documentation and procedures of bidders may be subject to a Quality System Evaluation (QSE) by the Technical Authority during bid evaluation period.

Refer to Annex "J1" for Deliverables/Certifications.

6.10 Health and Safety

The Bidder must certify with its bid that it has a documented Health and Safety system fully compliant with all current Federal, Provincial and Municipal regulations. If this information is not provided with the bid it will render the bid non-responsive.

Refer to Annex "J1" for Deliverable Requirements.

6.11 Fire Protection, Fire Fighting and Training Procedures

Refer to Annex "A" Section 3.8.

6.12 Hazardous Waste

1. The Bidder acknowledges that sufficient information has been provided by Canada with respect to the location and estimated amount of hazardous materials such as asbestos, lead PCBs, silica or other hazardous materials or toxic substances.

2. The price includes all costs associated with the removal, handling, storage, disposal and/or working in the vicinity of hazardous materials such as asbestos, lead, PCBs, silica and other hazardous materials or toxic substances on board the vessel, including those costs resulting from the need to comply with applicable laws and regulations in relation to the removal, handling, disposal or storage of hazardous materials or toxic substances.

3. The completion date for the Work takes into account the fact that the removal, handling, storage, disposal and/or working in the vicinity of hazardous materials such as asbestos, lead, PCBs, silica and other hazardous materials or toxic substances may be affected by the need to comply with applicable federal, provincial and municipal laws or regulations and that this will not be considered to be an excusable delay.

Refer to Annex "J1", Deliverables/Certifications.

6.13 Insurance Requirements

The Bidder must provide with its bid a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a Contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified in Annex "D". If this information is not provided with the bid it will render the bid non-responsive.

Refer to Annex "J1", Deliverables/Certifications.

6.14 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:

(a) CSA W47.1, Certification for Companies for Fusion Welding of Steel (Minimum Division Level 2); and
(b) CSA W47.2, Certification for Companies for Fusion Welding of Aluminum (Minimum Division Level 3); and
(c) CSA\ACNOR AWS (American Welding Society), Certification for Companies for Fusion Welding of Stainless Steel (Minimum Division Level 16).

The bidder must submit with his bid proof of its and/or subcontractors certification for CSA W47.1, Certification for Companies for Fusion Welding of Steel (Minimum Division Level 2) and CSA W47.2, Certification for Companies for Fusion Welding of Aluminum (Minimum Division Level 3). The bidder must maintain valid its certifications for the duration of the Contract.

The successful bidder will have to provide **five (5) days** before the start date of the Work, the list of welders susceptible to be assigned to the Work with a valid copy of their respective certificate. The bidder must maintain valid his list of certified welders for the duration of the Contract in accordance with Article 7.32.

Refer to Annex "J1" and “J2” for Deliverables/Certifications.

6.15 Project Management Services

The Bidder is required to provide a Project Management Team experienced and capable of successfully managing the ship refit Contract as defined herein. Project management personnel, services and deliverables must comply with the requirements detailed in the Contract.

1. Intent

(a) Job titles used in this annex are for clarity within this document only. The Contractor is free to choose job titles that suit its organization.

(b) The Contractor, through its Project Management Team, is responsible to discharge the duties and supply the deliverables required in the Contract and the Specifications.

2. Project Manager

(a) The Contractor must supply an experienced Project Manager (PM).
(b) The PM must have at least two years of experience within the last five years in managing a marine project.

3. Project Management Team

Other than the Project Manager, the Contractor may assign and deploy personnel to suit its organization; provided however that the collective resume of its Project Management Team provide for the effective control of the project elements including but not limited to:

i. Engineering
ii. Manufacturing
iii. Quality Assurance
iv. Planning and Scheduling
v. Test and Trials

vi. Purchasing

4. Tender Deliverable

Name, a short curriculum vitae, which includes only studies, experiences and/or any other completed training relevant to the role in the project team, and a list of duties per team member to ensure that each of the project elements listed in Article 2 and 3i through 3vi inclusive have been addressed.

Refer to Annex "J1" for Deliverables/Certifications.

6.16 List of Proposed Subcontractors

If the bid includes the use of subcontractors, the Bidder must provide a list of all subcontractors including a description of the things to be purchased, a description of the work to be performed by specification section and the location of the performance of that work. The list should not include the purchase of off- the-shelf items, software and such standard articles and materials as are ordinarily produced by manufacturers in the normal course of business, or the provision of such incidental services as might ordinarily be subcontracted in performing the Work

Refer to Annex "J1" for Deliverables/Certifications.

6.17 Quality Control Plan

At the time of bid closing the Bidder must submit to Canada an example of its Quality Control Plan (QCP) as applied on previous projects of the same nature.

Refer to Annex "J1" for Deliverables/Certifications.

6.18 Inspection and Test Plan

At the time of bid closing the Bidder must submit to Canada an example of an Inspection and Test Plan (ITP) complete with requirement and inspection reports as developed on previous projects of the same nature.

Refer to Annex "J1" for Deliverables/Certifications.

6.19 Environmental Protection

At the time of bid closing the Bidder must submit details of its environmental emergency response plans, waste management procedures and/or formal environmental training undertaken by its employees.

Refer to Annex "J1" for Deliverables/Certifications.

PART 7 - RESULTING CONTRACT CLAUSES

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

7.1 Requirement

The CCGS Caribou Isle Electrical Switchboard must be replaced. The CCG needs new Electrical Switchboard.

The Contractor must:

a) Remove the old Electrical Switchboard and Install new Electrical Switchboard in Parry Sound, Ontario.
b) Carry out any unscheduled work authorized by the Contracting Authority.

7.2 Optional Deliverables

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described in the Annex “A” – Statement of Work, under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a Contract amendment.

The Contracting Authority may exercise the option within 12 months after Contract award by sending a written notice to the Contractor

7.3 Definitions

In this Contract, unless the context otherwise requires:

‘CCGS’ – means Canadian Coast Guard Ship

‘Design Change’ - means any change to approved drawings, Specifications, or statements of requirements. Work necessary to eliminate " fouling" points or for the correction of errors made by the Contractor is not a "Design Change" within the meaning of this section;

‘DFO’ – means Department of Fisheries and Oceans;

Canada Dollar, “Dollars”, or “$” – means the legal tender of Canada;
tender of Canada;

“Good Marine Quality” - means constructed of materials unaffected by or resilient to moisture, sea spray (salt water and salt air), extremes of temperature, and other hazards of the marine environment, and has been designed and constructed to perform intended function in the marine environment conditions of the Atlantic Ocean and to withstand the dynamic motions and cyclic loads imparted in a marine environment. The item must further be designed and constructed for ease and safety of operation under dynamic conditions, to have an operational life equal or superior to the useful life that can be reasonably expected from such item in similar operating conditions and to require minimum maintenance as a result of such marine operating conditions;

‘Milestone’ - means an event, the completion of which signifies a significant and measurable achievement in the performance of the Work.

'OEM' - means original equipment manufacturer;

'Owner' - means Her Majesty the Queen in right of Canada as represented by the Minister of Fisheries and Oceans;

'Owners Representative' – means the Technical Authority or his/her designate;

"PWGSC"' or "PSPC" – means respectively the Department's former title Public Works and Government Services Canada or its new title Public Services and Procurement Canada;

'Working Day' – means any day of the year other than a Saturday, Sunday or any statutory holiday in the Province of Newfoundland, Nova Scotia, Ontario, Quebec or in the Public Service of Canada, and any reference herein to a day or days will mean calendar days unless expressly described as a "Working Day" or "Working Days".

Capitalized terms not otherwise defined in these Articles of Agreement numbered 1 through 52 inclusive and defined in the General Conditions or Supplemental Conditions referred to Section 7.2 will have meanings given to them in those Annexes.

7.4 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual issued by Public Works and Government Services Canada (PWGSC). The manual is available on the following PWGSC website: (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual).

7.4.1 General Conditions

SAAC Manual Clause **2030 (2018-06-21)**, General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

Clause **2030 (2018-06-21)**, General Conditions Higher Complexity - Goods are hereby amended as follows:

Section 22 Warranty

1. 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.

2. 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:
   (a) 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:
   (b) 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.
   (c) All other painting work for a period of 365 days commencing from the date of acceptance of the Work;

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

(i) the warranty on the work related to any system or equipment not immediately placed in continuous use or service will be for a period of ninety (90) days from the date of acceptance of the vessel;
(ii) for all outstanding defects, deviations, and work items listed on the Acceptance Document at Delivery, the warranty will be ninety (90) days from the subsequent date of acceptance for each item.

3. The Contractor agrees to pass to Canada, and exercise on behalf of Canada, all warranties on the materials supplied or held by the Contractor which exceed the periods indicated above. Refer to Annex “E” and its Appendix “1” for Warranty Defect Claim Procedures and forms.

SAAC Manual Clause **1031-2 (2012-07-16),** Contract Cost Principles, apply and form part of the Contract. This Clause is described below:

1031-2 01 (2008-05-12) General Principle

The total cost of the Contract must be the sum of the applicable direct and indirect costs which are, or must be reasonably and properly incurred and/or allocated, in the performance of the Contract, less any applicable credits. These costs must be determined in accordance with the Contractor's cost accounting practices as accepted by Canada and applied consistently over time.

1031-2 02 (2008-05-12) Definition of a Reasonable Cost

1. A cost is reasonable if the nature and amount do not exceed what would be incurred by an ordinary prudent person in the conduct of a competitive business.

2. In determining the reasonableness of a particular cost, consideration will be given to:

a. whether the cost is of a type generally recognized as normal and necessary for the conduct of a Contractor's business or performance of the Contract;
b. the restraints and requirements by such factors as generally accepted sound business practices, arm's length bargaining, federal, provincial and local laws and regulations, and Contract conditions;
c. the action that prudent business persons would take in the circumstances, considering their responsibilities to the owners of the business, their employees, customers, the Government and public at large;
d. significant deviations from the established practices of the Contractor which may unjustifiably increase the Contract costs; and
e. the specifications, delivery schedule and quality requirements of the particular Contract as they affect costs.

1031-2 03 (2008-05-12) Direct Costs

There are three categories of direct costs:

a. "Direct Material Costs" meaning the cost of materials which can be specifically identified and measured as having been used or to be used in the performance of the Contract and which are so identified and measured consistently by the Contractor's cost accounting practices as accepted by Canada.

i. These materials may include, in addition to materials purchased solely for the performance of the Contract and processed by the Contractor, or obtained from subcontractors, any other materials issued from the Contractor's general stocks.

ii. Materials purchased solely for the performance of the Contract or subcontracts must be charged to the Contract at the net laid-down cost to the Contractor before cash discounts for prompt payment.

iii. Materials issued from the Contractor's general stocks must be charged to the Contract in accordance with the method as used consistently by the Contractor in pricing material inventories.

b. "Direct Labour Costs" meaning the costs of the portion of gross wages or salaries incurred for the Work, which can be specifically identified and measured as having been incurred or to be incurred in the performance of the Contract and which are so identified and measured consistently by the Contractor's cost accounting practices as accepted by Canada.

c. "Other Direct Costs" meaning those applicable costs, not falling within the categories of direct material or direct labour, but which can be specifically identified and measured as having been incurred or to be incurred in the performance of the Contract and which are so identified and measured consistently by the Contractor's cost practices as accepted by Canada.

1031-2 04 (2012-07-16) Indirect Costs

1. "Indirect Costs (overhead)" meaning those costs which, though necessarily having been incurred during the performance of the Contract for the conduct of the Contractor's business in general, cannot be identified and measured as directly applicable to the performance of the Contract.

2. These Indirect Costs may include, but are not necessarily restricted to, such items as:

a. indirect materials and supplies (*);
b. indirect labour;
c. fringe benefits (the Contractor's contribution only);
d. public services expenses: expenses of a general nature such as power, heat, light, operation and maintenance of general assets and facilities;
e. fixed/period charges: recurring charges such as property taxes, rentals and reasonable depreciation costs;
f. general and administrative expenses: including remuneration of executive and corporate officers, office wages and salaries and expenses such as stationery, office supplies, postage and other necessary administration and management expenses;
g. selling and marketing expenses associated with the goods, services or both being acquired under the Contract;
h. general research or development expenses as considered applicable by Canada.

(*) For supplies of similar low-value, high-usage items the costs of which meet the above definition of Direct Material Costs but for which it is economically expensive to account for these costs in the manner prescribed for direct costs, then they may be considered to be indirect costs for the purposes of the Contract.

1031-2 05 (2008-05-12) Allocation of Indirect Costs

Indirect Costs must be accumulated in appropriate indirect cost pools, reflecting a Contractor's organizational or operational lines and these pools subsequently allocated to contracts in accordance with the following two principles:

a. the costs included in a particular indirect cost pool should have a similarity of

relationship with each Contract to which that indirect cost pool is subsequently distributed; further, the costs included in an indirect cost pool should be similar enough in their relationship to each other that the allocation of the total costs in the pool provides a result which would be similar to that achieved if each cost within that pool were separately distributed;

b. the allocation basis for each indirect cost pool should reflect, as far as possible, the causal relationship of the pooled costs to the contracts to which these costs are distributed.

1031-2 6 (2008-05-12) Credits

The applicable portion of any income, rebate, allowance, or any other credit relating to any applicable direct or indirect cost, received by or accruing to the Contractor, must be credited to the Contract.

1031-2 07 (2012-07-16) Non-applicable Costs

Despite that the following costs may have been or may be reasonably and properly incurred by the Contractor in the performance of the Contract, they are considered non-applicable costs to the Contract:

a. allowance for interest on invested capital, bonds, debentures, bank or other loans together with related bond discounts and finance charges;
b. legal, accounting and consulting fees in connection with financial reorganization, security issues, capital stock issues, obtaining of patents and licenses and prosecution of claims against Canada;
c. losses on investments, bad debts and collection charges;
d. losses on other contracts;
e. federal and provincial income taxes, excess profit taxes or surtaxes and/or special expenses in connection with those taxes;
f. provisions for contingencies;
g. premiums for life insurance on the lives of officers and/or directors where proceeds accrue to the Contractor;
h. amortization of unrealized appreciation of assets;
i. depreciation of assets paid for by Canada;
j. fines and penalties;
k. expenses and depreciation of excess facilities;
l. unreasonable compensation for officers and employees;
m. specific product development or improvement expenses not associated with the product being acquired under the Contract;
n. advertising, except reasonable advertising of an industrial or institutional character placed in trade, technical or professional journals for the dissemination of information for the industry or institution;
o. entertainment expenses;
p. donations except those to charities registered under the Income Tax Act;
q. dues and other memberships other than regular trade and professional associations;
r. fees, extraordinary or abnormal for professional advice in regard to technical, administrative or accounting matters, unless approval from the Contracting Authority is obtained.
s. compensation in the form of dividend payments or calculated based on dividend payments;
t. compensation calculated, or valued, based on changes in the price of corporate securities, such as stock options, stock appreciation rights, phantom stock plans or junior stock conversions; or, any compensation in the form of a payment made to an

employee in lieu of an employee receiving or exercising a right, option, or benefit.

7.4.2 Supplemental General Conditions

SAAC Manual Clause **1029** (2010-08-16) Ship Repairs;

SAAC Manual Clause **4006** (2010-08-16) Contractor to Own Intellectual Property Rights in Foreground Information.

7.5 Security Requirements

There is no security requirement applicable to the Contract

7.6 Term of Contract

7.6.1 Work Period - Marine

Work must commence and be completed as follows:

The start date of the work has not been finalized. Estimated start date is January 7, 2018 and the work must be completed by March 8, 2019.

The Contractor agrees that the above time (the "Work Period") provides an adequate period to perform the subject work and absorb a reasonable amount of unscheduled work. The Contractor certifies that they have sufficient material and human resources allocated or available to complete the subject work and a reasonable amount of unscheduled work within the Work Period.

7.7 Authorities

7.7.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Haitham Abbas
Title: Supply Specialist
Public Works and Government Services
Canada Acquisitions Branch
Directorate: Refit, Logistics and Small Vessel
Construction Address: 11 Laurier Street, Gatineau
(QC) K1A 0S5 Telephone: 873-469-4678
E-mail address: Haitham.Abbas@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.

7.7.2 Technical Authority

The Technical Authority for the Contract is:

Name: Will be disclosed at Contract Award
Telephone:
Cell:
E-mail:

The Technical Authority, is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a Contract amendment issued by the Contracting Authority.

7.7.3 Inspection Authority

The role of the Inspection Authority for the Contract will be assumed by the Canadian Coast Guard.

Name: Will be disclosed at Contract Award
Telephone:
Cell:
E-mail:

The Inspection Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for the inspection of the Work and acceptance of the finished work. The Inspection Authority may be represented on-site by a designated inspector and any other Government of Canada Inspector who may from time to time be assigned in support of the designated inspector.

7.7.4 Contractor Representative:

Name:
Telephone:
E-mail:

7.8 Payment

7.8.1 Basis of Payment - Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price indicated in the Basis of Payment Annex “B" for the Known Work. Applicable Taxes are extra, if applicable. Payment for unscheduled work must be in accordance with Annex "B".

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.

7.8.2 Method of Payment - Progress Payments - Subject to holdback

1. Canada will make payments in accordance with the Schedule of payments detailed in the Contract and the payment provisions of the Contract, up to 90 percent of the amount claimed and approved by Canada if:

    a. an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;

    b. the total amount for all payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;

c. all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;

d. all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.

2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of all Work required under the Contract if the Work has been accepted by Canada and a final claim for the payment is submitted.

7.8.3 Schedule of Progress Payments

Due to the short term of the Work period the schedule of progress payments will be made in accordance with the Contract is as follows:

1. Half way through the expected work period a payment will be issued based on the level of confirmed Work completed as per Annex H Appendix 1.
2. The second payment will be as per Section 7.8.2 (2) of the Contract.

7.8.4 Liens - Section 427 of the Bank Act

1. If any lien under section 427 of the Bank Act, S.C.. 1991, c. 46, exists in respect to any materials, parts, work-in-process, or finished work for which the Contractor intends to claim payment, the Contractor agrees to inform the Contracting Authority without delay and agrees, unless instructed otherwise by the Contracting Authority, either:

(a) to cause the bank to remove such lien and to provide the Contracting Authority with written confirmation from the bank; or,
(b) to provide to the Contracting Authority an undertaking from the bank that the bank will not make any claim under section 427 of the Bank Act on materials, parts, work-in-process, or finished work in respect of which payment is made to the Contractor under the Contract.

2. Failure to inform the Contracting Authority of such lien or failure to implement paragraph 1(a) or
(b) above will constitute default under the default section of the general conditions and will entitle Canada to terminate the Contract.

7.8.5 Limitation of Price

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.

7.8.6 Time Verification

SAAC Manual Clause C0711C (2008-05-12) Time Verification

7.8.7 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

a. Visa Acquisition Card;
b. MasterCard Acquisition Card;

c. Direct Deposit (Domestic and International);
d. Electronic Data Interchange (EDI);
e. Wire Transfer (International Only);

7.9 Invoicing Instructions

The Contractor must submit invoices in accordance with the information required in Section 13 of 2030 (2018-06-21), General Conditions, Higher Complexity, Goods and Article 7.8 - Payment and Article 7.9 - Invoicing Instructions.

7.9.1 Invoices

1. Invoices are to be made out to:

Canadian Coast Guard Engineering
520 Exmouth Street
Sarnia, Ontario, N7T 8B1
Attn: Helen Evans

And;

An invoice copy to be forwarded for verification to:

Public Works and Government Services Canada
Marine Systems Directorate
Ship Refit Division
6C2 Place du Portage, Phase III
11 Laurier Street
Gatineau, Quebec K1A 0S5
Attention: Haitham Abbas (Haitham.Abbas@tpsgc-pwgsc.gc.ca)

2. Canada will only make payment upon receipt of a satisfactory invoice duly supported by specified release documents and any other documents called for under the Contract.

3. The Contractor shall not submit an invoice prior to the completion and acceptance of the Work or shipment of the items to which it relates.

7.9.2 Invoicing Instructions - Progress Claim

1. The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111 http://publiservice-app.pwgsc.gc.ca/forms/pdf/1111.pdf, Claim for Progress Payment.

Each claim must show:

(a) all information required on form PWGSC-TPSGC 1111;
(b) all applicable information detailed under 2030 (2018-06-21), General Conditions, section 13 entitled "Invoice Submission";

2. Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.

3. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the Technical Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

   The Technical Authority will then forward the original and two (2) copies of the claim to the Contracting Authority for certification and onward submission to the Payment Office for the remaining certification and payment action.

4. The Contractor must not submit claims until all work identified in the claim is completed.

7.9.3 Warranty Holdback

A warranty holdback of 5% of the total Contract price as last amended (Applicable Taxes excluded) will be applied to the final claim for payment. This holdback will be payable by Canada upon the expiry of the 90 day warranty period(s) applicable to the Work. Applicable Taxes, as appropriate, is to be calculated and paid on the total amount of the claim before the 5% holdback is applied. At the time that the holdback is released, there will be no Applicable Taxes payable, as it was included in previous payments.

7.10 Certifications

7.10.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to Contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

7.10.2 Status of equipment provided

The Contractor must provide the Contracting Authority with evidence that all components of are new and manufactured recently (less than 3 years).

Canada will not accept equipment refurbished, reworked or rebuilt.

7.11 Applicable Laws

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

7.12 Priority of Documents

If there is a discrepancy between the wordings of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

(a) The Articles of Agreement;
(b) The Supplemental General Conditions 1029 (2010-08-16), Ship Repairs;
(c) The General Conditions 4006 (2010-08-16) Contractor to Own Intellectual Property Rights in Foreground Information;
(d) The General Conditions 2030 (2018-06-21), General Conditions - Higher Complexity – Goods;
(e) The General Conditions 1031-2 (2012-07-16), Contract Cost Principles;

(f) Bidder's Questions and Answers
(g) Annex "A", Statement of Work;
(h) Annex "B", Basis of Payment;
(i) Annex "D", Insurance Requirements;
(j) Annex "E", Warranty;
(k) Annex "F", Procedure for Unscheduled Work;
(l) Annex "G", Quality Control/Inspection;
(m) Annex "H", Financial Bid Presentation Sheet;
(n) Annex "J", Deliverables/Certifications;
(o) The Contractor's bid dated_____(insert date of bid), as amended__ (insert date(s) of amendment(s) if applicable)

7.13 Insurance Requirements

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

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

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

7.14 Limitation of Contractor's Liability for Damages to Canada

1. This section applies despite any other provision of the Contract and replaces the section of the general conditions entitled "Liability". Any reference in this section to damages caused by the Contractor also includes damages caused by its employees, as well as its subcontractors, agents, and representatives, and any of their employees.

2. Whether the claim is based in Contract, tort, or another cause of action, the Contractor's liability for all damages suffered by Canada caused by the Contractor's performance of or failure to perform the Contract is limited to $10 million per incident or occurrence to an annual aggregate of
$20 million for losses or damage caused in any one year of carrying out the Contract, each year starting on the date of coming into force of the Contract or its anniversary. This limitation of the Contractor's liability does not apply to nor include:

(a) Any infringement of intellectual property rights;

(b) Any breach of warranty obligations;

(c) Any liability of Canada to a third party arising from any act or omission of the Contractor in performing the Contract; or

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

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

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

5. If, at any time, the total cumulative liability of the Contractor for losses or damage suffered by any claim against the other for damages, costs, expected profits or any other such loss arising out of the termination. However, no such termination or expiry of the Contact shall reduce or terminate any of the liabilities that have accrued to the effective date of the termination but which liabilities are subject to the limitations as specified in sub-article (1) through (4) above

6. The date of termination pursuant to this Article, shall be the date specified by Canada in its notice to terminate, or, if the Contractor exercises the right to terminate, in a notice to the Contractor from Canada in response to the Contractor's notice to terminate. The date of termination shall be in Canada's discretion to a maximum of 12 months after service of the original notice to terminate served by either Party pursuant to sub-article 5, above.

7. Nothing shall limit Canada's other remedies, including Canada's right to terminate the Contract for default for breach by the Contractor of any of its obligations under this Contract, notwithstanding that the Contractor may have reached any limitation of its liability hereunder.

7.15 Environmental Impairment Liability Insurance

Refer to Annex D, section D.3

7.16 Financial Security N/A

7.17 Foreign Nationals (Canadian Contractor)

SAAC Manual Clause A2000C (2006-06-16) Security Foreign Nationals (Canadian Contractor).

7.18 Sub-contracts and Sub-contractor List

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

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

7.19 Work Schedule and Reports

No later than **five (5) calendar days** after Contract award, the preliminary work schedule

provided with the bid must be revised, detailed and resubmitted in preparation to the Contract award meeting.

The Contractor must provide a detailed work schedule showing the commencement and completion dates for the Work in the available work period, including realistic target dates for significant events.

During the work period the schedule is to be reviewed on an ongoing basis by the Inspection Authority and the Contractor, updated when necessary, and available in the Contractor's office for review by Canada's authorities to determine the progress of the Work.

7.20 Insulation Materials - Asbestos Free

All materials used to insulate or re-insulate any surfaces on board the vessel must meet Transport Canada Marine standards, for commercial marine work, and, for all work, be free from asbestos in any form. The Contractor must ensure that all machinery and equipment located below or adjacent to surfaces to be re-insulated are adequately covered and protected before removing existing insulation.

7.21 Trade Qualifications

The Contractor must use qualified, certificated (if applicable) and competent tradespeople and supervision to ensure a uniform high level of workmanship. The Technical Authority may request to view and record details of the certification and/or qualifications held by the Contractor’s tradespeople. This request should not be unduly exercised but only to ensure qualified tradespeople are on the job.

7.22 ISO 9001:2008 - Quality Management Systems

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

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

The Contractor's quality management system must address each requirement contained in the standard, however, the Contractor is not required to be registered to the applicable standard.

7.23 Project Management Services

The Contractor is required to provide their own Project Management Team experienced and capable of successfully managing the ship repair Contract as defined herein. Project management personnel, services and deliverables must comply with the requirements detailed in the Contract.

Project management refers to system integration and technical control as well as business management of the work on the CCGS.

The Contractor must provide the following within 15 days of Contract:

Project Action Plan (PAP):
The Contractor must document the project management for the work in a Project Action Plan and must update this plan at monthly intervals or more frequently as required by the Contracting Authority

7.24 Quality Control Plan

The Contractor must implement and follow the Quality Control Plan (QCP) prepared according to the latest issue (at Contract date) of ISO 10005:2005 Quality management - Guidelines for quality plans, approved by the Inspection Authority and the Technical Authority. The QCP must describe how the Contractor will conform to the specified quality requirements of the Contract and specify how the required quality activities are to be carried out, including quality assurance of subcontractors. The Contractor must include a traceability matrix from the elements of the specified quality requirements to the corresponding paragraphs in the QCP. The QCP must be made available to the Inspection and Technical Authority for review and approval **within five (5) calendar days** after Contract award.

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

The QCP must include a list of all deliverables stated under Annex A. It must be kept up to date and signed off by the IA when items are delivered.

The Contractor must make appropriate amendments to the QCP throughout the term of the Contract to reflect current and planned quality activities. Amendments to the QCP must be acceptable to the Inspection Authority and the Technical Authority.

Refer to Annex "G" for details.

7.25 Inspection and Test Plan

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

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

Refer to Annex "G" for details.

7.26 Equipment/Systems: Inspection/Test

Inspections, Tests and Trials of Equipment, Machinery and Systems shall be conducted in accordance with the Specification. The Contractor is responsible for performing, or having performed, all Inspections, Tests and Trials necessary to substantiate that the materiel and services provided conform to Contract requirements.

Refer to Annex "G" for details.

7.27 Environmental Protection

The Contractor and its sub-contractors engaged in the Work on a Crown vessel must carry out the Work in compliance with applicable municipal, provincial and federal environmental laws, regulations and industry standards.

The Contractor must have detailed procedures and processes for identifying, removing, tracking, storing, transporting and disposing of all potential pollutants and hazardous material encountered, to ensure compliance as required above. The Contractor must maintain in force their Environmental Protection procedures through the course of the Contract.

All waste disposal certificates are to be provided to the Technical Authority, with information copies sent to the Contracting Authority. Furthermore, additional evidence of compliance with municipal, provincial and federal environmental laws and regulations is to be furnished by the Contractor to the Contracting Authority when so requested.

The Contractor must have environmental emergency response plans and/or procedures in place. Contractor and subcontractor employees must have received the appropriate training in emergency preparedness and response. Contractor personnel engaging in activities which may cause environmental impacts or potential noncompliance situations, must be competent to do so on the basis of appropriate education, training, or experience.

7.28 Hazardous Waste

1. The Contractor acknowledges that sufficient information has been provided by Canada with respect to the location and estimated amount of hazardous materials such as asbestos, lead PCBs, silica or other hazardous materials or toxic substances.

2. The price includes all costs associated with the removal, handling, storage, disposal and/or working in the vicinity of hazardous materials such as asbestos, lead, PCBs, silica and other hazardous materials or toxic substances on board the vessel, including those costs resulting from the need to comply with applicable laws and regulations in relation to the removal, handling, disposal or storage of hazardous materials or toxic substances.
3. The completion date for the Work takes into account the fact that the removal, handling, storage, disposal and/or working in the vicinity of hazardous materials such as asbestos, lead, PCBs, silica and other hazardous materials or toxic substances may be affected by the need to comply with applicable federal, provincial and municipal laws or regulations and that this will not be considered to be an excusable delay.

7.29 Supervision of Fueling and Disembarking Fuel – N/A

7.30 Fire Protection, Fire Fighting and Training

The Contractor must maintain in force their fire protection, firefighting and training procedures through the course of the Contract.

7.31 Loan of Equipment - Marine

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

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

A list of Government equipment that the Contractor intends to request must be submitted to the Contracting Authority within **five (5) days** of Contract Award to permit timely supply or for alternate arrangements to be made. The request must state the time frame for which the equipment is required.

7.32 Welding Certification

1. The Contractor must ensure that welding is performed by a welder certified by the Canadian Welding Bureau (CWB) for the following Canadian Standards Association (CSA) standard(s):

   (a) CSA W47.1, Certification for Companies for Fusion Welding of Steel (Minimum Division Level 2);
   (b) CSA W47.2, Certification for Companies for Fusion Welding of Aluminum (Minimum Division 3).
   (c) CSA\ACNOR AWS (American Welding Society), Certification for Companies for Fusion Welding of Stainless Steel (Minimum Division Level 16);

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

3. Before the commencement of any fabrication work, and upon request from the Technical Authority, the Contractor must provide approved welding procedures and/or a list of welding personnel they intend 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 certification to CSA welding standards.

7.33 Procedures for Design Change or Additional Work

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

Refer to Annex "F" for the detailed procedure.

7.34 Vessel Manned Refits –N/A

7.35 Vessel Unmanned Refits

1. Starting from the beginning of the Work, the vessel will be unmanned and will be considered to be in «inactive» until the end of the work. The vessel during that period will remain in the care and custody of its Owner and under its control. Unless otherwise specified, the installation will take place at the base of the Canadian Coast Guard in Parry Sound, Ontario.

2. The fire equipment must be easily accessible and the Contractor must ensure that it is available in an emergency. The Contractor must take appropriate precautions when combustion or welding is carried out in compartments or other enclosed areas of the vessel.

7.36 Kick-off Meeting

A Kick-off meeting for the work of will be convened and chaired by the Contracting Authority at the Canadian Coast Guard Base in Parry Sound, at time to be determined. At that meeting the Contractor will introduce its personnel as per its organization chart and Canada will introduce authorities. Details of work will be discussed.

7.37 Progress Meetings

Progress meetings, chaired by the Contracting Authority, will take place at the Canadian Coast Guard Base in Parry Sound and when required. Interim meetings may also be scheduled including daily production meetings where other contractors may attend for planning purposes. Contractor attendees at these meetings will, as a minimum, be its Contract (Project) Manager, Production

Manager (Superintendent) and Quality Assurance Manager. Progress meetings will generally incorporate Technical meetings to be chaired by the Technical Authority.

During each PRM the Contractor shall provide a status of the overall contracted project, including programmatic, production, test, Integrated Logistics Support, subcontract, risk issues, and progress as it relates to the Project Action Plan (PAP) and Schedule, and the associated Work Breakdown Structure. For each PRM, the Contractor shall:

(a) Ensure that Contractor data, personnel and facilities are available for each formal meeting in order that the meetings may be conducted in an efficient manner; and
(b) Include the following agenda items for discussion and resolution:
  i. PAP and updates;
  ii. Contractual Issues;
  iii. Financial Issues;
  iv. Technical Issues;
  v. Environmental, Health and Safety Issues; and
  vi. Previous action items.

The PWGSC CA or authorized representative will chair the PRMs and will approve decisions prior to adjourning the PRM with the resulting decisions reflected in the Meeting Minutes.

The Contractor shall record the minutes of all meetings, and include as a minimum discussion items, records of decisions, all action items, risk items, and a record of conclusions reached at the Progress Review and Technical Meetings.

The Contractor will distribute a draft of all minutes to the Contracting Authority, Inspection Authority and Technical Authority for review and comment from Canada, prior to issuing the final version.

Once final comments are incorporated to the satisfaction of Contracting Authority, the minutes shall be signed as accepted by the Contractor, Contracting Authority, and Technical Authority

7.37.1 Weekly meetings

Weekly update meetings, chaired by the Contracting Authority, will take place by teleconference, generally once a week. Call-in co-ordinates and timings to be provided by Contract Authority at the Pre-Refit meeting. Contractor attendees at these meetings will, as a minimum, be its Contract (Project) Manager, and Project Planner. The following agenda Items will be for discussion and resolution:

i. Schedule Update
ii. Technical Issues
iii. Contractual Issues

7.38 Outstanding Work and Acceptance

1. The Inspection Authority, in conjunction with the Contractor, will prepare a list of outstanding work items at the end of the work period. This list will form the annexes to the formal acceptance document for the vessel. A Contract completion meeting will be convened by the Inspection Authority on the work completion date to review and sign off the form PWGSC-TPSGC1205, Acceptance. In addition to any amount held under the Warranty Holdback Clause, a holdback of twice the estimated value of outstanding work will be held until that work is completed.

2. The Contractor must complete the above form in three (3) copies, which will be distributed by the Inspection Authority as follows:

(a) original to the Contracting Authority;
(b) one copy to the Technical Authority;
(c) one copy to the Contractor.

7.39 Scrap and Waste Material

SAAC Manual Clause A9055C (2010-08-16) Scrap and Waste Material

7.40 Stability – Not used

7.41 Vessel Access by Canada – N/A

7.42 Title to Property – Vessel – N/A

7.43 Workers Compensation

SAAC Manual Clause A0285C (2007-05-25) Workers Compensation

7.44 Dispute Resolution

The parties agree to follow the procedures below for the settlement of any disputes which may arise throughout the life of this Contract prior to seeking redress through court procedures:

(a) Disputes arising from this Contract will in the first instance be resolved by the Contracting Authority and the Contractor's Contract Administrator within 15 Working Days or such additional time as may be agreed to by both parties.

(b) Failing resolution under (a) above, the Manager of the Ship Refit Division (MD) of the Marine Systems Directorate at PWGSC and the Contractor's Representative Supervisor will attempt to resolve the dispute within an additional fifteen (15) Working Days.

(c) Failing resolution under (a) or (b) above, the Director of the Refit, Logistics and Small Vessel Construction Directorate of the Marine Services and Small Vessel Sector at PWGSC, and the Contractor's Senior Management will attempt to resolve the dispute within an additional thirty (30) Working Days.

(d) Notwithstanding the above procedure, either party may seek a decision through the courts at any time during the dispute.

7.45 Failure to Deliver

Time is of the essence of the Contract. Changes in the Completion date not caused by Canada are Contractor defaults, will prejudice Canada and are at the Contractor's expense. The Completion date will not be extended without consideration being provided by the Contractor acceptable to Canada in the form of adjustment to the price, warranty or services to be provided.

7.46 Care, Custody and Control

Refer to Supplemental General Conditions 1029 (2010-08-16) Ship Repairs Article 08 Where Vessel In Commission.

7.47 Permits, Licenses and Certificates

The Contractor must obtain and maintain all permits, licenses and certificates of approval required for the work to be performed under any applicable federal, provincial or municipal legislation. The Contractor is responsible for any charges imposed by such legislation or regulations. Upon request, the Contractor must provide a copy of any such permit, license or certificate to Canada.

7.48 Export Licenses

Where material is to be imported into Canada, the Contractor is responsible for obtaining all necessary export licenses from the country of origin in sufficient time to enable the export.

7.49 Equivalency of Equipment

(a) The Contractor guarantees that the equipment to be delivered under the Contract is:

(i) equivalent in form, fit, function and quality to the existing equipment owned by Canada that was described in the bid solicitation that resulted in the Contract; and
(ii) fully compatible, interchangeable and interoperable with the existing equipment owned by Canada.

(b) The Contractor also guarantees that any warranties with third parties concerning the existing equipment owned by Canada will not be adversely affected by Canada's use of the equipment delivered under the Contract (for example, by interconnecting the equipment) or by any other services provided by the Contractor under the Contract. If Canada determines in its sole discretion that any such warranty has been adversely affected, at Canada's sole option, the Contractor must:

(i) pay to Canada the amount that Canada must pay to the original supplier (or an authorized reseller of that supplier) to re-certify Canada's existing equipment for warranty purposes and any other amounts paid by Canada to a third party in order to restore the equipment to full warranty status;
(ii) perform all warranty work on Canada's existing equipment in place of the original supplier; or
(iii) pay to Canada the amount that Canada must pay to the original supplier (or an authorized reseller of that supplier) to perform maintenance work on the equipment that otherwise would have been covered by the warranty.

(c) The Contractor agrees that, during the Contract Period, if Canada determines that any of the equipment is not equivalent in form, fit, function and quality to the existing equipment owned by Canada or is not fully compatible, interchangeable and interoperable with the existing equipment owned by Canada, the Contractor must immediately and entirely at its own expense take all steps necessary to ensure that the equipment satisfies these requirements (for example, by implementing any additional software or firmware), failing which Canada will have the immediate right to terminate the Contract for default. The Contractor agrees that, if Canada terminates the Contract for this reason, the Contractor must pay to Canada the costs of reprocuring the equipment from a third party and the difference, if any, in price paid by Canada to the third party. The Contractor acknowledges that its failure to deliver equivalent equipment that satisfies the above requirements may result in the Contractor (as well as its affiliates and any other entities with whom the Contractor or its principals do not deal at arm's length) being unable to propose equivalent substitutes in response to future PWGSC bid solicitations.

7.50 Exchange Rate Fluctuation Adjustment – Not used

7.51 Government Supplied Material

Government Supplied Material (GSM) is the property of the Government of Canada. The Contractor is responsible for maintaining satisfactory records of the disposition of all GSM. The GSM described herein must be used in the manufacture of the item(s) contracted. Only the quantity of material stated herein will be supplied by Canada without charge. If GSM does not conform to requirements for incorporation into the Work, the Contractor shall make a request for replacement GSM in writing to Canada within 30 days after the receipt of GSM. At Canada's instruction, the Contractor shall replace or repair any GSM, at the prices and In Accordance with Contract provisions relating to Unscheduled Work. The Contractor shall replace or make good, at its own expense, any GSM which fail to conform to the Contract requirements as a result of faulty or inefficient cutting, manufacture or workmanship by the Contractor.

In the event of problems with the GSM supplied, the Contractor shall advise the Contracting Authority immediately, identifying the specific problem. Should the Contractor proceed Without guidance from the Contracting Authority, any costs incurred, and loss of GSM shall be at the Contractor's expense.

The Contractor shall repair or replace at its own expense GSM that is damaged or lost while in the Contractor's care.

While a final GSM accounting is not automatically required for every Contract, Canada reserves the right to request a final accounting at any time within one year of the Contract completion date.

Contractor must refer to Annex A for listed GSM if any.

7.52 Government Furnished Equipment

All Government Property must be used by the Contractor solely for the purpose of the Contract and remains the property of Canada. The Contractor must maintain adequate Accounting records of all Government Property and, whenever feasible, mark it as being the property of Canada.

The Contractor must take reasonable and proper care of all Government Property while it is in its possession or subject to its control. The Contractor is responsible for any loss or damage resulting from its failure to do so other than loss or damage caused by ordinary wear and tear. All Government Property, unless it is installed or incorporated in the Work, must be returned to Canada on demand. All scrap and all waste materials, articles or things that are Government Property must, unless provided otherwise in the Contract, remain the property of Canada and must be disposed of only as directed by Canada.

At the time of completion of the Contract, and if requested by the Contracting Authority, the Contractor must provide to Canada an inventory of all Government Property relating to the Contract.

The following items will be supplied as Government Furnished Equipment:

Contractor must refer to Annex A for listed Government Furnished Equipment if any.

ANNEX A
Statement of Work

ANNEX B

BASIS OF PAYMENT
PRICE

Annex “B” will form the Basis of Payment for the resulting Contract and should not be filled in at the bid submission stage.

B1 Contract Firm Price

A)	**Known Work** For work as stated in Part 1 Article 1.2.1, Specified in Annex "A" and detailed in the attached Pricing Data Sheets Appendix 1 of Annex "H", for a FIRM PRICE of:	**$**_____
B)	**Optional Deliverable for CCGS Cove Isle** For work as stated in Part 1 Article 1.2.1, Specified in Annex "A" and detailed in the attached Pricing Data Sheets Appendix 1 of Annex "H", for a FIRM PRICE of:	**$**_____
C)	**Optional Deliverable for CCGS Ile Saint Ours** For work as stated in Part 1 Article 1.2.1, Specified in Annex "A" and detailed in the attached Pricing Data Sheets Appendix 1 of Annex "H", for a FIRM PRICE of:	**$**_____
D)	**B1**. Unscheduled Work Contractor Labour Cost: Estimated labour hours at a firm Charge-out Labour Rate, including overhead and profit for evaluation purpose only: 100 person hours X $_____per hour for a PRICE of: See Article H2.1 and H2.2 below. **B2.** Overtime for time and one half: Estimated hours for evaluation purposes only: 50 person hours X $_____per hour for a PRICE of: See Article H3 Below. **B3.** Overtime for double time: Estimated hours for evaluation purposes only: 30 person hours X $_____per hour for a PRICE of: See Article H3 below.	**$**_____ **$**_____ **$**_____

B2 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 specified by Canada and accepted by Contractor as per the procedures of this Contract) X $_____, being the Contractor's firm hourly charge-out labour rate which includes overhead, consumables, and profit, plus net laid-down cost of materials to which will be added a mark-up of 10%, plus applicable taxes, of the total cost of material and labour. This rate shall be a blended rate for all classes of labor, engineering and foreperson.

The firm hourly charge-out labour rate and the material mark-up will remain firm for the duration of the Contract and any subsequent amendments."

B2.1: Notwithstanding definitions or useage elsewhere in this document, or in the Contractor's Cost

Management System, when negotiating hours for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.

Elements of Related Labour Costs identified in B2.2 below, will not be negotiated, but will be compensated for in accordance with B2.2.

B2.2: Allowance for Related Labour Costs such as: Management, all Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Certification Inspecting and Reporting, Estimating, and Preparing Unscheduled Work Submissions will be included as Overhead for the purposes of determining the Charge-out Labour Rate entered in line B2 above.

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

Pro-rated Prices Unscheduled Work

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

B3 Overtime

The Contractor must not perform any overtime under the Contract unless authorized in advance and in writing by the Contracting Authority. There will be no overtime payment for Known Work. Any request for payment must be accompanied by a copy of the overtime authorization and a report containing the overtime performed pursuant to the written authorization. Overtime shall not be paid unless authorized in writing by the Contracting Authority.

Payment for authorized overtime will be calculated as follows:

Time and One-Half Rate: $_____/ per person hour
Double Time Rate: $_____/ per person hour

This rate shall be a blended rate for all classes of labor, engineering and foreperson and shall include all overheads, supervision and profit.

These rates will remain firm for the duration of the Contract, including all amendments and are subject to audit if considered necessary by Canada.

** Regular time is defined as an 8 hour work day*

*** Overtime Time and One-Half Rate is defined as time in excess of the regular time,*

**** Overtime Double Time Rate is defined as Sundays and Statutory Holidays*

B4 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: $_____

(b) For a non-Working Day: $_____

The above fees shall include but not be limited to, all aspects of the following costs: Project Management Services, 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.

B5 Vessel, Refit, Repair or Docking Cost

The following costs must be included in the price:

1. Ship Services: include all costs for ship services such as steam regardless its use, water and electricity to perform the Work, garbage and waste removal, etc., required for vessel maintenance for the duration of the Contract.

2. Field Service Representatives/Supervisory Services: include all costs for field service representatives/supervisory services including manufacturers' representatives, engineers or other technical personnel as specified. The Contractor is responsible to schedule all subcontractors and FSRs and their respective performances.

FSR daily expenses will be charged separately once the work is completed by submitting for adjustment a PWGSC Form 1379. These daily expenses will need to be submitted in accordance with Article 7.47 of the Contract.

For adjustment purposes, the Contractor is required to submit with the Form 1379 FSR daily time sheets signed by the IA and as well as daily expenses. Canada will not be responsible for time lost, standby time or delays that are not caused by Canada. It is the Contractor’s responsibility to schedule and plan for an optimal FSR presence.

The Contractor may be authorized to charge for admissible FSRs costs when unscheduled work requiring these services is added to the Contract.

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

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

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

B6 Pricing Data Sheets

Parameters from the Pricing Data Sheets will be used at Canada's sole discretion in the determination of unscheduled work price.

ANNEX C

FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION

To PART 5 - BID SOLICITATION

Not Used

ANNEX D

INSURANCE REQUIREMENTS

D.1 Ship Repairers' Liability Insurance

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

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

    a. Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.

    b. Waiver of Subrogation Rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by Environment Canada and Public Works and Government Services Canada for any and all loss of or damage to the vessel, however caused.

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

    d. Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.

    e. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

    f. Litigation Rights: Pursuant to subsection 5(d) of the *Department of Justice Act*, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

    For the province of Quebec, send to:
    Director Business Law Directorate,
    Quebec Regional Office (Ottawa),
    Department of Justice,
    284 Wellington Street, Room SAT-6042,
    Ottawa, Ontario, K1A 0H8

    For other provinces and territories, send to:
    Senior General Counsel,
    Civil Litigation Section,
    Department of Justice
    234 Wellington Street, East Tower
    Ottawa, Ontario K1A 0H8

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

D.2 Commercial General Liability Insurance

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

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

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

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

(c) Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.

(d) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

(e) Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.

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

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

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

(i) If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.

(j) Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.

(k) Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.

D.3 Environmental Impairment Liability Insurance

1. The Contractor must obtain Contractor's Pollution Liability insurance, providing coverage for Asbestos Abatement, 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 $5,000,000 per accident or occurrence and in the annual aggregate.
2. 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.

3. The Contractor's Pollution Liability insurance policy must include the following:

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

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

(c) Separation of Insureds: 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.

(d) Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.

(e) Incidental Transit Extension: The policy must extend to losses arising from any waste, products or materials transported, shipped, or delivered via any transportation mode to a location beyond the boundaries of a site at which the Contractor or any entity for which the Contractor is legally liable is performing or has performed the operations described in the Contract.

(f) Lead and Asbestos Abatement: The policy must provide coverage for the removal and disposal of asbestos material.

(g) Litigation Rights: Pursuant to subsection 5(d) of the Department of Justice Act, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to:
Director Business Law Directorate,
Quebec Regional Office (Ottawa),
Department of Justice,
284 Wellington Street, Room SAT-6042,
Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to:

Senior General Counsel,
Civil Litigation Section,
Department of Justice
234 Wellington Street, East Tower
Ottawa, Ontario K1A 0H8

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

ANNEX E

WARRANTY

Warranty Procedures

1. Scope

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

2. 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. Since the Inspection Authority has the closest and most active involvement of the contracted work completed this agency must assume this role.

3. Procedures

a. Immediately it becomes known to the Ship's Staff that an equipment/system is performing below accepted standards or has become defective, the procedures for the investigation and reporting are as follows:

i. The vessel advises the Technical Authority when a defect, which is considered to be directly associated the refit work, has occurred.

ii. On review of the Specification and the Acceptance Document, the Technical Authority in consort with Ship's Staff is to complete the Tombstone Data and section 1 of the Warranty Claim Form Appendix 1 of Annex "D" and forward the original to the Contractor for review with a copy to the Contracting Authority. If the Contracting 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, the Contracting Authority 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 Technical Authority who confirms corrective action has been completed, and who then distributes the form to the 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 and 3 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 the Contracting Authority action. Material costs and labor hours expended in correcting the defect are to be recorded and entered in Section 5 of the warranty defect claim form (see below) by the Technical Authority who will forward the warranty defect claim to the 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 bythe Contracting Authority action.

4. Liability

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

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 Contracting Authority will negotiate the best possible sharing arrangement.

b. In the event of a disagreement as in paragraph 5c of the warranty claim form below, the Contracting Authority 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 labor hours and material, will be discussed between the Contracting, Inspection and Technical Authorities to determine the best course ofaction.

5. Alongside Period For Warranty Repairs and Checks

a. If at all possible, an alongside period for the vessel is to be arranged just before the expiration of the 90 day warranty period. This alongside period is to provide time for warranty repair and check by the Contractor.

b. In respect to the underwater paint, should it become defective during the associated warranty period the Contractor is only liable to repair to a value determined as follows:
"Original cost to Canada for painting and preservation of the underwater section of the hull, divided by 365 days and multiplied by the number of days remaining in the 365 days warranty period. The resultant would represent the 'Dollar Credit' due to Canada from the Contractor."

c. The Underwater paint system, before expiration of the warranty, should be checked by divers. The Technical Authority is to arrange the inspection and ensure that a representative of the Contractor will attend. The Technical Authority will inform the Contracting Authority of any adverse results.

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Warranty Claim

Réclamation De Garantie

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

1. Description of Complaint – Description de plainte

Contact Information – l'information de contact	
_____ Name – Nom Tel. No. - N ° Tél	_____ Signature – Signature Date

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

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

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

Date of Corrective Action - Date de modalité de reprise

Client Name and Signature - Nom et signature de client

Date

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

Signature – Signature

Date

ANNEX F

PROCEDURE FOR PROCESSING UNSCHEDULED WORK

1. Purpose

The Unscheduled Work Procedure has been instituted for the following purposes:

a. To establish a uniform method of dealing with requests for Unscheduled Work;

b. To obtain the necessary Technical Authority approval and Contracting Authority authorization before Unscheduled Work commences;

c. To provide a means of maintaining a record of Unscheduled Work requirements including Serial Numbers, dates, and accumulated cost. The Contractor shall have a cost accounting system that is capable of assigning job numbers for each Unscheduled Work requirement so that each requirement can be audited individually.

2. Definitions

a. An Unscheduled Work Procedure is a contractual procedure whereby changes to the scope of Work under the Contract may be defined, priced and contractually agreed to. Such changes may arise from;

i. "Work Arising" from opening up of machinery and/or surveys of equipment and material, or
ii. "New Work" not initially specified but required on the Vessel.

b. The procedure does not allow for the correction of deficiencies in the Contractor's Bid.

c. No unscheduled work may be undertaken by the Contractor without written authorization of the Contracting Authority except under emergency circumstances described in Sub. Paragraph 3(b). Unscheduled Work

d. Work undertaken without written Contracting Authority authorization will be considered the Contractor's responsibility and cost.

e. The appropriate PWGSC form is the final summary of the definition of the Unscheduled Work requirement, and the costs negotiated and agreed to.

3. Procedures

a. The procedure involves the electronic form PWGSC 1379 for refit and repair and will be the only form for authorizing all Unscheduled Work.

b. Emergency measures required to prevent loss or damage to the Vessel which would occur if this procedure were followed, shall be taken by the Contractor on its own authority. The responsibility for the cost of such measures shall be determined in accordance with the terms and conditions of the Contract.

c. The Technical Authority will initiate a work estimate request by defining the Unscheduled Work requirement. It will attach drawings, sketches, additional specifications, other clarifying details as appropriate, and allocate their Serial Number for the request.

d. Notwithstanding the foregoing, the Contractor may propose to the Technical Authority in writing, either by letter or some type of Defect Advice Form (this is the Contractor's own form) that certain Unscheduled Work should be carried out.

e. The Technical Authority will either reject or accept such Proposal, and advise the Contractor and Contracting Authority. Acceptance of the Proposal is not to be construed as authorization for the work to proceed. If required, the Technical Authority will then define the Unscheduled Work requirement in accordance with Sub. Paragraph 3.(c).

f. The Contractor will electronically submit its Proposal to the Contracting Authority together with all price support, any qualifications, remarks or other information requested.

g. The price support shall demonstrate the relationship between the scope of work, the Contractor's estimated costs and its selling price. It is a breakdown of the Contractor's unit rates, estimates of person hours by trade, estimate of material cost per item for both the Contractor and all of its subcontractors including quotations, estimates of any related schedule impact and an evaluation of the Contractor's time required to perform the Unscheduled Work.

h. The Contractor shall provide copies of purchase orders and paid invoices for Subcontracts and/or materials, including stocked items, in either case. The Contractor shall provide a minimum of two quotations for Subcontracts or materials. If other than the lowest, or sole source is being recommended for quality and/or delivery considerations, this shall be noted. On request to the Contractor, the Contracting Authority shall be permitted, to meet with any proposed Subcontractor or material supplier for discussion of the price and always with the Contractor's representative present.

i. After discussion between the Contracting Authority and the Contractor and if no negotiation is required, the Contracting Authority will seek Technical Authority confirmation to proceed by signing the form. The Contracting Authority will then sign and authorize the Unscheduled Work to proceed.

j. In the event the Technical Authority does not wish to proceed with the work, it will cancel the proposed Unscheduled Work through the Contracting Authority in writing.

k. In the event the negotiation involves a Credit, the appropriate PWGSC form will be noted as "credit" accordingly.

l. In the event that the Technical Authority requires Unscheduled Work of an urgent nature or an impasse has occurred in negotiations, the commencement of the Unscheduled Work should not be unduly delayed and should be processed as follows, in either case. The Contractor will complete the appropriate PWGSC 1379 form indicating the offered cost and pass it to the Contracting Authority. If the Technical Authority wishes to proceed, the Technical Authority and the Contracting Authority will sign the completed PWGSC form with the notation, "CEILING PRICE SUBJECT TO DOWNWARD ADJUSTMENT", and allocate a Serial Number having the suffix "A". The work will proceed with the understanding that following an audit of the Contractor's actual costs for completing the described work, the cost will be finalized at the ceiling price or lower, if justified by the audit. A new PWGSC form will then be completed with the finalized costs, signed and issued with the same Serial Number without the suffix "A", and bearing a notation that this form is replacing and canceling the form having the same Serial Number with the suffix "A".

NOTE: PWGSC forms bearing Serial Numbers with a suffix "A" shall not to be included in any Contract amendments, and therefore no payment shall be made until final resolution of the price and incorporation into the Contract.

4. Amendment to Contract or Formal Agreement

The Contract will be amended from time to time in accordance with the Contract terms to incorporate the costs authorized on the appropriate PWGSC forms.

ANNEX G

QUALITY CONTROL/INSPECTION

G1 Quality Control Plan

The Contractor must implement and follow the Quality Control Plan (QCP) prepared according to the latest issue (at Contract date) of ISO 10005:2005 quality management - Guidelines for quality plans, approved by the Inspection and the Technical Authority. The QCP must describe how the Contractor will conform to the specified quality requirements of the Contract and specify how the required quality activities are to be carried out, including quality assurance of subcontractors. The Contractor must include a traceability matrix from the elements of the specified quality requirements to the corresponding paragraphs in the QCP. The QCP must be made available to the Inspection and Technical Authority for review and approval **within five (5) calendar** days after Contract award.

The documents referenced in the QCP must be made available within two (2) Working Days when requested by the Inspection Authority. The Contractor must make appropriate amendments to the QCP throughout the term of the Contract to reflect current and planned quality activities. Amendments to the QCP must be acceptable to the Inspection Authority and the Technical Authority.

G2 Inspection and Test Plan (ITP):

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

2. Coding:
   a. Each Inspection and Test Plan (ITP) is to be coded for identification clearly demonstrating a systematic approach similar to the following (Contractor's system should be defined in its Quality Control Plan):
      i. Prefixes for Inspections, Test and Trials:

         Prefix "1" is a Contractor inspection, i.e. 1H-10-01, 1H-10-02;
         Prefix "2" is a Contractor post repair test, i.e. 2H-10-01; and
         Prefix "3" is a Contractor post repair trial, i.e. 3H-10-01.
   b. Specification items followed by assigned sequence numbers for inspection processes within each Specification Item; and
   c. Cross reference to a verification document number

G3 Inspection and Test Plan Criteria:

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

   a. All ITPs must be prepared by the Contractor in accordance with the above criteria, its Quality Plan, and must provide the following reference information:
      i. the ship's name;
      ii. the Specification item number;

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

4. Contractor Imposed Testing:
Tests and trials in addition to those given in the Specification must be approved by the Inspection Authority.

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

G4 Conduct of Inspection

1. Inspections must be conducted in accordance with the ITP and as detailed in G4.

2. The Contractor must provide its own staff or subcontracted staff to conduct inspections, tests and trials; excepting that Technical Authority or Inspection Authority personnel may be designated in the specifications, in which case the Contractor must ensure that its own staff are provided in support of such inspection/test/trial.

3. The Contractor must ensure that the required conditions stated in the ITP prevail at the commencement of, and for the duration of, each inspection/test/trial.

4. The Contractor must ensure that personnel required for equipment operation and records taking during the inspection/test/trial are briefed and available at the start and throughout the duration of the inspection/test/trial. Tradesmen or FSRs who may be required to effect minor changes or adjustments in the installation must be available at short notice.

5. The Contractor is to coordinate the activities of all personnel taking part in each inspection/test/trial and ensure that safe conditions prevail throughout the inspection/test/trial.

G5 Inspection Records and Reports

1. The Contractor on the inspection record, test or trials sheets as applicable must record the results of each inspection. The Contractor must maintain files of completed inspection records consistent with the Quality Standard and its Quality Plan for this project.

2. The Contractor's QC representative (and the FSR when required) must sign as having witnessed the inspection, test or trial on the inspection record. The Contractor must forward originals of completed inspection records, together with completed test(s) and/or trials sheets to the Inspection Authority as they are completed.

3. Unsatisfactory inspection/test/trial results, for which corrective action cannot be completed during the normal course of the inspection/test/trial, will require the Contractor to establish and record the cause of the unsatisfactory condition to the satisfaction of the Inspection Authority. Canada representatives may assist in identification where appropriate.

4. Corrective action to remove cause of unsatisfactory inspections must be submitted to the Inspection Authority in writing by the Contractor, for approval before affecting such repairs and rescheduling of the unsatisfactory inspection/test/trial. Such notices must be included in the final records passed to the Inspection Authority.

5. The Contractor must undertake rectification of defects and deficiencies in the Contractor's installation or repair as soon as practicable. The Contractor is responsible to schedule such repairs at its own risk.

6. The Contractor must reschedule unsatisfactory inspections after any required repairs have been completed.

7. Quality Control, Inspection and Test records that substantiate conformance to the specified requirements, including records of corrective actions, must be retained by the Contractor for three (3) years from the date of completion or termination of the Contract and must be made available to the Inspection Authority upon request.

G6 Inspection and Trials Process

1. Drawings and Purchase Orders
   a. Upon receipt of two (2) copies of each drawing or purchase order, the designated Inspection Authority will review its content against the provisions of the specification. Where discrepancies are noted, the Inspection Authority will formally advise all concerned, in writing using a Discrepancy Notice. The resolution of any such discrepancy is a matter for consultation between the Contractor and other Crown Authorities.

The Inspection Authority is NOT responsible for the resolution of discrepancies.

2. Inspection
   a. Upon receipt and acceptance of the Contractor's ITP, inspection will consist of a number of Inspection Points supplemented by such other inspections, tests, demonstrations and trials as may be deemed necessary by the Inspection Authority to permit him to certify that the work has been performed in compliance with the provisions of the specification. The Contractor must be responsible for notifying the designated Inspection Authority of when the work will be available for inspection, sufficiently in advance to permit the designated Inspection Authority to arrange for the appropriate inspection.
   b. The Inspection Authority will inspect the materials, equipment and work throughout the project against the provisions of the specification and, where non-conformances are noted, will issue appropriate INSPECTION NON-CONFORMANCE REPORTS.
   c. The Contract requires the implementation of a Quality Assurance/Quality Control system, so the Inspection authority must require that the Contractor provide a copy of its internal inspection report pertaining to a work item before conducting the requested inspection. If third party inspections are required by the Contract (e.g. inspections by a certified CWB 178.2 welding inspector), the reports of these inspections must be required before the Work is inspected by the PWGSC Inspection Authority.
   d. The QA/QC system is a requirement, so if the documentation is presented to the Inspection Authority before an inspection stating that the Work is satisfactory but the Inspection Authority finds that the Work has not been satisfactorily inspected, the Inspection Authority must issue an Inspection Non-conformance Report against the Work and another against the failure of the Contractor's QA/QC system.
   e. Before carrying out any inspection, the PWGSC Inspection Authority must review the requirements for the Work and the acceptance and/or rejection standards to be applied. Where more than one standard or requirement is called up and they are potentially conflicting, the Inspection Authority must refer to the order of precedence in the Contract to determine the standard or requirement to be applied

3. Inspection Non-conformance report
   a. An Inspection Non-conformance report will be issued for each non-conformance noted by the Inspection Authority. Each report will be uniquely numbered for reference purposes, will be signed and dated by the Inspection Authority, and will describe the non-conformance.
   b. When the non-conformance has been corrected by the Contractor and has been re-inspected and accepted by the Inspection Authority, the Inspection Authority will complete the Report by adding an applicable signed and dated notation.
   c. At the end of the project, the content of all Inspection Non-conformance Reports which have not been signed-off by the Inspection Authority will be transferred to the Acceptance Documents before the Inspection Authority's certification of such documents.

4. Tests, Trials, and Demonstrations
   a. To enable the Inspection Authority to certify that the Work has been performed satisfactorily, in accordance with the Contract and Specifications, the Contractor must schedule, co-ordinate, perform, and record all specified Tests, Trials and Demonstrations required by the Inspection Authority.
   b. Where the Specifications contain a specific performance requirement for any component, equipment, sub-system or system, the Contractor must test such component, equipment, sub-system or system to the satisfaction of the Inspection Authority, to prove that the specified performance has been achieved and that the component, equipment, sub-system or system performs as required by the specifications.
   c. Tests, trials and demonstrations must be conducted in accordance with a logical, systematic schedule which must ensure that all associated components and equipment are proven before sub-systems demonstration or testing, and that sub-systems are proven before system demonstration or testing.
   a. Where the Specifications do not contain specific performance requirements for any component, equipment, sub-system or system, the Contractor must demonstrate such component, equipment, sub-system or system to the satisfaction of the Inspection Authority.
   b. The Contractor must submit its Inspection and Test Plan as detailed in G2.
   c. The Contractor must co-ordinate each test, trial and demonstration with all interested parties, including the Inspection Authority; Contracting and Technical Authorities; regulatory authorities; Classification Society; Sub-contractors; etc. **The Contractor must provide the Inspection Authority and other Crown Authorities with a minimum of five (5) Working Days notice of each scheduled test, trial, or demonstration.**
   g. The Contractor must keep written records of all tests, trials, and demonstrations conducted as detailed in G5.
   h. The Contractor must in all respects be responsible for the conduct of all tests and trials in accordance with the requirements of the Contract.
   i. The Inspection Authority and the Technical Authority reserve the right to defer starting or continuing with any sea trials for any reasonable cause including but not limited to adverse weather, visibility, equipment failure or degradation, lack of qualified personnel and inadequate compliance with safety standards.

ANNEX H

Financial Bid Presentation Sheet

H1 Price Evaluation

A)	**Known Work** For work as stated in Part 1 Article 1.2.1, Specified in Annex "A" and detailed in the attached Pricing Data Sheets Appendix 1 of Annex "H", for a FIRM PRICE of:	**$**_____
B)	**Optional Deliverable for CCGS Cove Isle** For work as stated in Part 1 Article 1.2.1, Specified in Annex "A" and detailed in the attached Pricing Data Sheets Appendix 1 of Annex "H", for a FIRM PRICE of:	**$**_____
C)	**Optional Deliverable for CCGS Ile Saint Ours** For work as stated in Part 1 Article 1.2.1, Specified in Annex "A" and detailed in the attached Pricing Data Sheets Appendix 1 of Annex "H", for a FIRM PRICE of:	**$**_____
D)	**B1**. Unscheduled Work Contractor Labour Cost: Estimated labour hours at a firm Charge-out Labour Rate, including overhead and profit for evaluation purpose only: 100 person hours X $_____per hour for a PRICE of: See Article H2.1 and H2.2 below. **B2.** Overtime for time and one half: Estimated hours for evaluation purposes only: 50 person hours X $_____per hour for a PRICE of: See Article H3 Below. **B3.** Overtime for double time: Estimated hours for evaluation purposes only: 30 person hours X $_____per hour for a PRICE of: See Article H3 below.	**$**_____ **$**_____ **$**_____
E)	EVALUATION PRICE *= A + B + C + D (Applicable Taxes Excluded):*	**$**_____

H2 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, consumables, and profit, plus net laid-down cost of materials to which will be added a mark-up of 10 percent, plus Applicable Taxes, if applicable, of the total cost of material and labour. This rate shall be a blended rate for all classes of labor, engineering and foreperson. The firm hourly charge-out labour rate and the material mark-up will remain firm for the duration of the Contract and any subsequent amendments."

H2.1: Notwithstanding definitions or usage elsewhere in this document, or in the Contractor's Cost Management System, when negotiating Hours for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.

Elements of Related Labour Costs identified in H2.2 below, will not be negotiated, but will be compensated for in accordance with Note H2.2. It is therefore incumbent upon the bidder to have bid appropriately which will result in fair compensation, regardless of their Cost Management System.

H2.2: Allowance for Related Labour Costs such as: Management, all Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Certification Inspecting and Reporting, and Estimating and preparing unscheduled work Submissions will be included as Overhead for the purposes of determining the Charge-out Labour Rate entered in line H2 above.

H2.3: The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Charge-out Labour Rate. The Contractor will not be entitled to a separate labour component for the purchase and handling of materials or subcontract administration.

Pro-rated Prices Unscheduled Work

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

H3 Overtime

The Contractor must not perform any overtime under the Contract unless authorized in advance and in writing by the Contracting Authority. There will be no overtime payment for Known Work. Any request for payment must be accompanied by a copy of the overtime authorization and a report containing the overtime performed pursuant to the written authorization. Overtime shall not be paid unless authorized in writing by the Contracting Authority.

Payment for authorized overtime will be calculated as follows:

a) Time and One-Half Rate: $_____/ per person hour
b) Double Time Rate: $_____/ per person hour

This rate shall be a blended rate for all classes of labor, engineering and foreperson and shall include all overheads, supervision and profit.

These rates will remain firm for the duration of the Contract, including all amendments and are subject to audit if considered necessary by Canada.

* Regular time is defined as an 8 hour work day.
** Overtime Time and One-Half Rate is defined as time in excess of the regular time.
*** Overtime Double Time Rate is defined as Sundays and Statutory Holidays Pro-rated Prices.

ANNEX H - APPENDIX 1 PRICING DATA SHEETS
(to form part of Annex B of the Resulting Contract)

CCGS Caribou Isle

SOR Reference	Description	Price
7.0	**SWITCHBOARD DESIGN AND FABRICATION**	
7.3	Switchboard assembly including:	
	Switchboard Construction	
	Instrumentation	
	Tie Breaker	
	Distribution Breakers	
	New Functionalities	
	Identification and Labeling	
7.3.4	Arc-Flash Study and Labeling as per Section 8.0	
7.4.1	Plan Approval	
7.4.2	Inspections	
7.4.3	Certification	
7.5.1.1	Freight and Delivery	
7.5.2	Documentation	
7.6	Spare Parts	
9.0	**INSTALLATION**	
9.3	Equipment Removal and Installation	
9.4.1	Inspections	
9.4.2	Commissioning	
9.4.3	Dock-Trials	
9.5.2	“As-Fitted” Drawing Package	
TOTALS		

Optional Deliverable for CCGS Cove Isle

SOR Reference	Description	Price
7.0	**SWITCHBOARD DESIGN AND FABRICATION**	
7.3	Switchboard assembly including:	
	Switchboard Construction	
	Instrumentation	
	Tie Breaker	
	Distribution Breakers	
	New Functionalities	
	Identification and Labeling	
7.3.4	Arc-Flash Study and Labeling as per Section 8.0	
7.4.1	Plan Approval	
7.4.2	Inspections	
7.4.3	Certification	
7.5.1.1	Freight and Delivery	
7.5.2	Documentation	
7.6	Spare Parts	
9.0	**INSTALLATION**	
9.3	Equipment Removal and Installation	
9.4.1	Inspections	
9.4.2	Commissioning	
9.4.3	Dock-Trials	
9.5.2	“As-Fitted” Drawing Package	
10.0	**PURCHASE OPTIONS**	
10.1.2	Purchase Only (price per unit)	
10.1.2	Purchase and Installation (price per unit)	
TOTALS		

Optional Deliverable for CCGS Ile Saint Ours

SOR Reference	Description	Price
7.0	**SWITCHBOARD DESIGN AND FABRICATION**	
7.3	Switchboard assembly including:	
	Switchboard Construction	
	Instrumentation	
	Tie Breaker	
	Distribution Breakers	
	New Functionalities	
	Identification and Labeling	
7.3.4	Arc-Flash Study and Labeling as per Section 8.0	
7.4.1	Plan Approval	
7.4.2	Inspections	
7.4.3	Certification	
7.5.1.1	Freight and Delivery	
7.5.2	Documentation	
7.6	Spare Parts	
9.0	**INSTALLATION**	
9.3	Equipment Removal and Installation	
9.4.1	Inspections	
9.4.2	Commissioning	
9.4.3	Dock-Trials	
9.5.2	“As-Fitted” Drawing Package	
10.0	**PURCHASE OPTIONS**	
10.1.2	Purchase Only (price per unit)	
10.1.2	Purchase and Installation (price per unit)	
TOTALS		

ANNEX J

DELIVERABLES/CERTIFICATIONS

J1 Mandatory Tender Deliverables Check List

Notwithstanding deliverable requirements specified within the bid solicitation and its associated Technical Specification (Annex A), mandatory deliverables that must be submitted with the Bidder's tender to be deemed responsive are summarized below.

The Bidder must submit a completed Annex "J1" Deliverables/ Certifications.

The following are mandatory and the Bidder's submission will be evaluated against the requirements as defined herein. The Bidder must be determined to be compliant on each item to be considered responsive.

Item	Description	Completed and Attached
1	Invitation To Tender document part 1 page 1 completed and signed;	
2	1 hard copy and 1 soft copy (USB Key) for all 3 sections, Article 3.1;	
3	Completed Annex "H" Financial Bid Presentation Sheet", Annex H, H1 through H3;	
4	Completed Pricing Data Sheets, per Article 3.1 Section II, Annex "H", Appendix 1 as Excel file;	
5	Completed Annex "J1" Deliverables/Certifications;	
6	Changes to Applicable Laws (if any), as per Article 2.4;	
7	Integrity Provisions - Associated Information, Article 5.1.1;	
8	Bidder’s Competencies, Article 5.1.2;	
9	Education and Experience Certification , Article 5.1.3;	
10	Status and Availability of Resources Certification, Article 5.1.4;	
11	Proof of good standing with Worker's Compensation Board, Article 6.5;	
12	Proof of valid Labor Agreement or similar instrument covering the work period, Article 6.6;	
13	Preliminary Work Schedule , Article 6.7;	
14	Quality Management System, Article 6.9;	
15	Health and Safety System, Article 6.10;	
16	Objective evidence of documented Fire Protection, Fire Fighting and Training Procedure, Article 6.11;	
17	Hazardous Materials, Bidder’s acknowledgement, Article 6.12 / Annex A, Section 1.7;	
18	Insurance Requirements – letter , Article 6.13;	
19	Proof of welding certification, Article 6.14;	
20	Project Management, Article 6.15 para 4;	
21	List of subcontractors, Article 6.16;	
22	Example of Quality Control Plan, Article 6.17;	

23	Example of an Inspection and Test Plan, Article 6.18;	
24	Details of Environmental Emergency Response Plan, Details of Formal Environmental Training, Article 6.19.	

J2 Deliverables after Contract Award

Item	Description	Reference	Due By
1	Insurance requirements as per Annex "D"	Article 7.12 and Annex ‘‘D’’	10 Working Days after Contract award
2	Revised Work Schedule	Article 7.17	5 Working Days after Contract award
3	The Contractor’s Quality Control Plan	Article 7.22	5 Working days after Contract award
4	The list of Government specialized loaned equipment that the Contractor intends to request.	Article 7.29	5 Working days after Contract award
5	List of welders with valid certificates	Articles 6.14 / 7.30	5 Working days before start of the Work

ANNEX K

PART 3 OF THE BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

As indicated in Part 3, clause 3.2, the Bidder must identify which electronic payment instruments they are willing to accept for payment of invoices.

The Bidder accepts any of the following Electronic Payment Instrument(s): ( )

VISA Acquisition Card;

( ) MasterCard Acquisition Card;

( ) Direct Deposit (Domestic and International);

( ) Electronic Data Interchange (EDI);

( ) Wire Transfer (International Only);

( ) Large Value Transfer System (LVTS) (Over $25M)

CCGS Caribou Isle
Switchboard Replacement

Specification No: Spec #872.18

Date: 2018-09-26

Revision No: 3.0

Prepared by Marine Engineering
520 Exmouth Street
Sarnia, Ontario
N7T 8B1

1.0 TABLE OF CONTENTS

SOR #	Specification	TCMS Field #:
872.18		
Table of Contents		

2.0 LIST OF ACRONYMS

CA	Contract Authority (PSPC)
CCG	Canadian Coast Guard
CLC	Canada Labour Code
CSA	Canadian Standards Association
CWB	Canadian Welding Bureau
DFO	Department of Fisheries and Oceans
FAT	Factory Acceptance Tests
FSSM	Fleet Safety & Security Manual (CCG)
FSR	Field Service Representative
IEEE	Institute of Electrical and Electronic Engineers
IMO	International Maritime Organization
LOA	Length Over-All
MEP	Mean Efficient Pressure
PPE	Personal Protection Equipment
PSPC	Public Services and Procurement Canada
SOR	Statement of Requirements
SWB	Switchboard
TCMS	Transport Canada Marine Safety
TI	Technical Inspector - Inspection Authority (CCG)
TA	Technical Authority – Owner’s Representative (CCG)

SOR #	Specification	TCMS Field #:
872.18		
General Notes		

3.0 GENERAL NOTES

3.1 Identification

3.1.1 These General Notes describe the CCG requirements applicable to all accompanying Technical Specifications.

3.2 References

3.2.1 Applicable regulations and documentation:

Procedures	Title	Included Yes/No
DFO/5737	Fleet Safety and Security Manual	Available from CCG/ITS
Publications		
TP3177E	Standard for the Control of Gas Hazards in Vessels to be Repaired or Altered	Available from Transport Canada
T127E	Transport Canada Marine Safety Electrical Standard	http://www.tc.gc.ca/eng/marinesafety/tp-menu-515.htm
IEEE 45	Recommended Practice for Electrical Installation on Ships	ISBN 0-7381-3381-7
70-000-000-EU-JA-001	Specification for the Installation of Shipboard Electronic Equipment	Available from CCG/ITS
CSA W47.1	Certification of Companies for Fusion Welding of Steel Structures Division 2 Certification	Available from CSA
CSA W47.2	Certification of Companies for Fusion Welding of Aluminum	Available from CSA
CSA W59	Welded Steel Construction – Metal Arc Welding	Available from CSA
CSA W59.2	Welded Aluminum Construction	Available from CSA
CT-043-EQ-EG-001-E	Welding Specification	CG Intranet
CAN/CGSB-3.517-2015	Diesel Fuel	http://ccinfoweb2.ccohs.ca/legislation/documents/stds/cgsb/galsd15e.pdf
Acts		
S.C. 2001, c-26	Canada Shipping Act	http://laws-lois.justice.gc.ca/eng/acts/C-10.15/page-1.html

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R.S.C., 1985, c. L-2	Canada Labour Code	http://laws-lois.justice.gc.ca/eng/acts/L-2/index.html
Regulations		
SOR/2010-120	Maritime Occupational Health and Safety	http://laws-lois.justice.gc.ca/eng/regulations/SOR-2010-120/
SOR/90-264	Marine Machinery Regulation	http://laws-lois.justice.gc.ca/eng/regulations/SOR-90-264/

3.3 Occupational Health and Safety

3.3.1 The Contractor and all sub-contractors must follow Occupational Health and Safety (OHS) procedures in accordance with applicable federal and provincial OHS regulations ensuring that Contractor activities are carried out in a safe manner and do not endanger the safety of any personnel.

3.3.2 The Contractor and the Contractor's employees, including any sub-contractors must attend a safety orientation meeting of the vessel prior to the commencement of any work in order to familiarize the Contractor's employees with ship specific hazards and permit systems for work protocols as well as procedures for Security, Hazard Prevention, Hazard Intervention and Pre-Job Safety Assessments. The Contractor will have access to an uncontrolled copy of the Fleet Safety and Security Manual.

3.3.3 The Contractor must comply with the Fleet Safety and Security Manual, DFO/5737 and shipboard work instructions in addition to the applicable Canada Labour Code regulations while performing work involving the following;

- Hot Work;
- Work Aloft;
- Confined Space Entry;
- Gas Freeing for Entry and Hot Work;
- Lock Out/Tag Out;
- Pre-Job Safety Assessments.

3.3.4 For the purpose of the Lock Out/Tag Out procedure the Contractor must supply locks and locking devices for the Contractor's employees in addition to those provided by the Chief Engineer for the ship's crew.

3.3.5 The Contractor and Contractor's employees will not have access to the vessel's washrooms and crew mess facilities. The Contractor must provide the necessary amenities for the Contractor's and sub-contractors employees as required.

3.4 Access to Worksite

3.4.1 The Contractor must ensure the TA and CCG staff has unrestricted access to the worksite at all times during the Contract period.

3.5 Workplace Hazardous Materials Information System (WHIMS)

3.5.1 The Contractor must provide the TA with Material Safety Data Sheets (MSDS) for all Contractor supplied WHIMS controlled products.

3.5.2 The TA will provide the Contractor with access to MSD sheets for all controlled products on the ship for all specified work items.

3.6 Smoking in the Work Space

3.6.1 The Contractor must ensure compliance with the Non- Smokers' Health Act. The Contractor must ensure that every employer, and any person acting on behalf of an employer, must ensure that persons refrain from smoking in any work space under the control of the employer. The Contractor must ensure that there is absolutely no smoking onboard the vessel.

3.7 Clean and Hazard Free Worksite

3.7.1 Before the Contractor starts any work on the vessel the Contractor's Representative, the TA must walk through each space and area where work is to take place, including access and removal routes and areas adjacent to those where the work is to be done as a result of this specification. The Contractor's Quality Assurance Representative must take digital pictures of each area showing the outfit therein and download the photos in JPG format onto a CD or DVD. Each picture must be dated and labeled as to the location on the vessel. Copies of this CD or DVD are to be provided to the TA for reference purposes within 48 hours of the start of the Contract.

3.7.2 The Contractor, during the work period must maintain those areas of the vessel which Contractor personnel use to access those areas where work is to be undertaken, in a clean condition, free from debris and remove garbage daily.

3.7.3 Areas that pose a hazard as a result of the specification work are to be secured and clearly identified by the Contractor with signage to advise

and protect all personnel from the hazard in accordance with applicable Canada Labour Code requirements.

3.7.4 Upon completion of this Contract, the Contractor must be responsible for the removal of all garbage generated from the work of this specification and for returning the vessel to the state of cleanliness in which the vessel was at the start of the Contract period.

3.7.5 Once all known work and final clean-up has been completed the Contractor's QA Representative, the TA must perform a 'walk through' of the vessel to view all areas where work was performed by the Contractor. Any deficiencies or damage noted must be recorded and compared to the photos and if deemed to have been caused by the Contractor as a result of the work the damage must be repaired by the Contractor at no cost to the Coast Guard.

3.8 Fire Protection

3.8.1 The Contractor must ensure the isolation, removal and installation of fire detection and suppression systems or any components thereof, is performed by a qualified technician. When the fire detection or fire suppression system is deactivated or disabled by the Contractor during the Contract, the system(s) must be recertified by a qualified technician as fully functional. A signed and dated original copy of the certificate must be delivered to the TA before the end of the Contract.

3.8.2 The Contractor must notify the TA and obtain written approval from the TA prior to disturbing, removing, isolating, deactivating / disabling or locking out any part of the fire detection or suppression systems, including heat and smoke sensors.

3.8.3 The Contractor must ensure protection against fire at all times including when working on the ship's fire detection and / or suppression system(s). This may be accomplished as suggested below and only with the written permission of the TA:

- Disabling only one portion of a system at a time;
- By maintaining system function using spares while work is in progress;
- Other means acceptable to and approved by the TA.

3.8.4 The Contractor must note that failure to take the necessary precautions while performing work on the vessel's fire suppression system(s) could result in the accidental discharge of the fire suppression agent(s). The Contractor must recharge and certify at his cost, container(s) or systems that are discharged as a result of such work.

3.9 Touch-up / Disturbed Paint

3.9.1 Unless stated otherwise the Contractor must supply and apply two coats of marine primer compatible with the vessel's existing coating system to all new and/or disturbed metal surfaces.

3.9.2 The Contractor must prepare all new and disturbed steelwork to the paint manufacturer's standards prior to painting.

3.10 CCG Employees and Others on the Vessel

3.10.1 CCG / DFO employees and other personnel such as manufacturer's representatives and/or TCMS or Class surveyors may carry-out other work including work items not included in this specification, onboard the vessel during this work period. Every effort will be made by the TA to ensure this work and the associated inspections and/or surveys do not interfere with the Contractor's work. The Contractor will not be responsible for coordinating the related inspections or payment of inspection fees for this work unless otherwise specified.

3.11 Regulatory Inspections and/or Class Surveys

3.11.1 The Contractor must contact, coordinate, schedule and pay all regulatory inspections and/or class surveys by the applicable authority: i.e. TCMS, HC, Environment Canada or others as required by the specification. Any documentation generated by the above inspections and/or surveys to show that the inspections and/or surveys were conducted (i.e. original signed and dated certificates) must be provided to the TA.

3.11.2 The Contractor must not substitute inspection by the TA for the required regulatory inspections or class surveys. The Contractor must provide timely advance notification (minimum of 48 hours) of scheduled regulatory inspections and/or class surveys to the TA so they may witness the inspection.

3.12 Test Results and Data Book

3.12.1 The Contractor must develop a Test and Trials Plan which must include as a minimum, all tests and trials stated in the specification. This plan must be provided for TA review 4 week(s) prior to the originally scheduled Tests and Trials commencement.

3.12.2 All tests, measurements, calibrations and readings must be recorded, signed by the person taking the measurements, dated and provided in report format both in hard copy and electronic format, to the TA, and TCMS.

3.12.3 Recorded dimensions must be to a precision of three decimal places (unless otherwise stated) in the measuring system currently in use on the vessel.

3.12.4 The Contractor must provide to the TA current and valid calibration certificates for all instrumentation used in the Test and Trials Plan showing that the instruments have been calibrated in accordance with the manufacturer's instructions.

3.12.5 Hard copy reports must be bound in standard 3-ring binders, type written on letter size paper and indexed by specification number. Electronic copies must be in unprotected Adobe PDF format and provide on CD-ROM media. The Contractor must provide 3 hard copies and 1 electronic copy of all reports.

3.12.6 All documentation from the Contract period must be inserted in a data book and delivered to the TA on completion of the Contract.

3.13 Contractor Supplied Materials and Tools

3.13.1 The Contractor must ensure all materials are new and unused.

3.13.2 The Contractor must ensure replacement material such as jointing, packing, insulation, small hardware, oils, lubricants, cleaning solvents, preservatives, paints, coatings etc. are in accordance with the equipment manufacturer's drawings, manuals and/or instructions.

3.13.3 Where no particular item is specified or where substitution must be made, the TA must approve the substituted item in writing. The Contractor must provide information about materials used, certificate of grade and quality of various materials to the TA and TI prior to use.

3.13.4 The Contractor must provide all equipment, devices, tools and machinery such as cranage, staging, scaffolding and rigging necessary for the completion of the work in this specification.

3.13.5 The Contractor must provide waste disposal services for any oil, oily waste or other hazardous or controlled waste generated by the work of this specification. The Contractor must provide waste disposal certificates for all of the above generated waste and the disposal certificates must indicate that the disposal was in accordance with Federal, Provincial and Municipal regulations in effect.

3.14 Government Supplied Materials & Tools

3.14.1 All tools are Contractor supplied unless otherwise stated in the technical specifications.

3.14.2 Where tools are supplied by the TA they must be returned by the Contractor in the same condition as when they were borrowed.

Borrowed tools must be inventoried and signed for by the Contractor on receipt and return to the TA.

3.14.3 Any Government supplied material (GSM) will be received by CCG and will be made available to the Contractor at the worksite.

3.15 Restricted Areas

3.15.1 The Contractor must not enter the following areas except to perform work as required by the specifications: all cabins, offices, workshops, Engineers' office, Wheelhouse, Control Room, all washrooms, Galley, Mess Rooms, Lounge areas and any other areas restricted by signage.

3.15.2 The Contractor must give the TA 24 hours advance notice prior to working in any accommodation areas or office spaces. This will allow CCG adequate time to move personnel and secure the areas.

3.16 Contractor Inspections and Protection of Equipment and the Worksite

3.16.1 The Contractor must coordinate an inspection with the TA on the condition and location of items to be removed prior to carrying out the specified work or to gain access to a location to carry out the work.

3.16.2 Any damage incurred as a result of the Contractor's work and that is attributable to the Contractor's work performance must be repaired by the Contractor at his expense. Materials used in any replacement or repairs must meet the criteria for Contractor supplied material noted above in section Contractor Supplied Materials and Tools.

3.16.3 The Contractor must protect all equipment and surrounding areas from damage. Work areas are to be protected from the ingress of water, welding and blasting grit etc. Temporary covers to work areas must be installed.

3.17 Recording of Work in Progress

3.17.1 The TA may record any work in progress using various means including, but not limited to photography and video, digital or film.

3.18 List of Confined Spaces

3.18.1 The Contractor may request a list of the vessel's identified confined spaces at the Pre-Refit meeting.

3.19 Lead Paint and Paint Coatings

3.19.1 The Contractor must not use lead based paints.

3.19.2 CG ships have been painted with lead based paints in the past and as a result some of the Contractor's processes such as grinding, welding and burning may release this lead from the coatings. The Contractor must ensure that coatings in the affected work areas are tested for lead content and that the work is performed in accordance with applicable Federal and Provincial regulations.

3.19.3 The Contractor must provide HC product approval for underwater hull surface paints controlled by HC and the Pest Management Regulatory Agency.

3.20 Asbestos Containing Materials

3.20.1 The Contractor must not use any asbestos containing materials.

3.20.2 Handling of any asbestos containing materials must be performed by personnel trained and certified in the removal of asbestos in accordance with Federal, Provincial and Municipal regulations in effect and in accordance with the Fleet Safety and Security Manual. The Contractor must provide the TA and TI with disposal certificates for all asbestos containing material removed from the vessel indicating that the disposal was in accordance with Federal, Provincial and Municipal regulations in effect.

3.21 Removed Materials and Equipment

3.21.1 All removed equipment as a result of this specification must remain the property of the Coast Guard unless otherwise instructed in the specification sections.

3.22 Welding Certification

3.22.1 For any work requiring the application of fusion welding for steel structures the Contractor and/or the sub-contractor welders must be certified by the Canadian Welding Bureau in accordance with CSA Standards W47.1-03, latest revision – Certification of Companies for Fusion Welding of Steel Division 2 Certification as a minimum. Current copies of certification (including those of the welders) must be provided to the TA and the TI.

3.23 Electrical Installations

3.23.1 All electrical installations and repairs must be carried out in accordance with the latest revisions of Transport Canada Marine Safety Electrical Standard TP127E and IEEE Standard 45 Recommended Practice for Electrical Installation on Ships.

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3.24 Electric Power

3.24.1 CCG must allow the use of a limited number of 115 VAC, 1 phase, 15 amp receptacle(s) for the use of the Contractor for the contracted period.

4.0 SERVICES

4.1 General

4.1.1 The Contractor must supply the following services to the vessel for the entire work period and disconnect upon completion of the work period.

4.1.2 The Contractor must be responsible for supplying all material, equipment, and labor required to connect and disconnect the services to the vessel. Unless otherwise stated these services must be available 24 hours a day 7 days a week for the entire Contract period.

4.2 Temporary Electrical Distribution

4.2.1 The Contractor must be responsible for supplying and distributing electrical power through the vessel. The services must be maintained until the shipboard electrical distribution is restored.

4.2.2 The Contractor must provide 240V 3ph to the following circuit:

- P1-10 Heating Panel L5

4.2.3 The Contractor must provide 120/240 1ph to the following circuits:

- P3-2 Engine Room Distribution Panel L4
- P4-2 Wheelhouse Distribution Panels L2 & L6

4.2.4 The Contractor can either use the shore power as a power source, a mobile generator, or a combination of the two.

4.2.5 The distribution including the circuit protection, cable type and size, and certification of the equipment, must be in accordance with the TP 127.

5.0 VESSEL PARTICULARS

Name: CCGS Caribou Isle
Voyage Class: Inland Water Class II
Year Built: 1985

5.1 Principal Dimensions:

Length: 23.0 m
Breadth, molded: 6.0 m
Loaded Draft: 1.6 m
Tonnage, displ: 92.08 Tonnes (Lightship)

5.2 Vessel Availability

5.2.1 The vessel will be available for refit from January 7, 2019 to March 8, 2019.

5.2.2 All the work in this specification must be completed by March 8, 2019, including commissioning, test and trials, regulatory inspection and work acceptance.

5.3 Worksite Location

5.3.1 The CCGS Caribou Isle will be located the Canadian Coast Guard Base of Parry Sound, ON.

5.3.2 Canadian Coast Guard
Attn: CCGS CARIBOU ISLE
28 Waubeek St.
Parry Sound, ON,
P2A 1B9, Canada

6.0 MANDATORY VESSEL SITE SURVEY

6.1 General

6.1.1 This mandatory site visit is intended to provide all potential bidders the opportunity to view the existing condition and layout the vessel with respect to this Contract.

6.1.2 Contractor is responsible to identify changes to any of the existing systems to accommodate the proposed equipment.

6.1.3 Contractor is responsible to confirm measurements and dimensions onboard to base his engineering on actual and up to date information. The winning bidder will be given access to the vessel in order to take precise measurements for the engineering development. Period to be determined in accordance to the vessel operation plan.

7.0 SWITCHBOARD DESIGN AND FABRICATION

7.1 Identification

7.1.1 The Canadian Coast Guard require replacement of the electrical switchboards on the CCGS Caribou Isle. The Contractor must perform the engineering design, supply and deliver the switchboard.

7.2 References

7.2.1 Drawings

Drawing Number	Description
42-83-300	General Arrangement
42-83-600_1	One Line Electrical Diagram
42-83-600_2	One Line Electrical Diagram – Distribution Panels
42-83-602	Switchboard Schematic

7.2.2 Regulations

7.2.2.1 Canada Shipping Act 2001(2001, c.26)

7.2.2.2 SOR/90-264, Marine Machinery Regulations

7.2.3 Standards

7.2.3.1 IEEE 45, Recommended Practice for Electrical Installations on Shipboard

7.2.3.2 TCMS; TP 127E Electric Standards (2008)

7.3 Technical

7.3.1 General

7.3.1.1 The provided switchboard must fit in the available space of 1600mm Width x 610mm Depth x 1580mm Height.

7.3.1.2 The switchboard must be designed to travel through the engine room. The switchboard must enter the engine room though the Cargo hold hatch (90” x 60”) and the soft patch opening (64” Wide X 30” High)

7.3.1.3 The switchboard must meet applicable regulation and be approved for shipboard use.

7.3.1.4 The provided switchboard must be Class approved by American Bureau of Shipping. ABS certificates to be delivered with the equipment.

7.3.1.5 The design must replicate the existing functionalities of the switchboard and be compatible with the existing electrical distribution, using new

and modern equipment. The design must also integrate all the new functionalities as indicated the section 7.3.2 of this specification.

7.3.1.6 The new design must respect the distributions of the loads on either sides of the Tie Breaker. The electrical systems are distributed in order to have a minimum of essential equipment of each bus. Thus, the vessel can operate on one generator with the Tie Breaker open.

7.3.1.7 Switchboard Construction

7.3.1.7.1 The switchboard must be constructed as a single enclosure.

7.3.1.7.2 The frame must be in Stainless Steel.

7.3.1.7.3 The outside covers of the Switchboard must be in steel, recovered powder coat RAL7035.

7.3.1.7.4 The instrumentation and controls for the Generators and the Shore Power must be at the front. The Distribution Breakers may be located either on the sides or at the back of the SWB.

7.3.1.7.5 The switchboard must have access doors on the front and the back. If the design include breakers on the sides, then the sides must be access doors as well.

7.3.1.7.6 The switchboard must accommodate cable entry from the bottom, as per existing configuration.

7.3.1.8 Instrumentation

7.3.1.8.1 The instrument panel must be divided in 3 different sections: Left, Center and Right. When facing the instrument panel (facing to the Aft of the engine room), the Left side of the switchboard will be on Stbd side of the vessel.

7.3.1.8.2 The Left section must contain the instrumentation and controls of Stbd Generator.

7.3.1.8.3 The Right section must contain the instrumentation and controls of Port Generator.

7.3.1.8.4 The Centre section must contain the Shore Power as well as the Harbor Generator. The instrumentation and controls of shore power instrumentation must be located above the instrumentation for Harbor Generator.

7.3.1.8.5 The instrumentation for shore power must be, as a minimum:

- Ampere meter
- Ammeter phase selector
- Volt Meter
- Voltmeter phase selector

- Phase sequence indicator
- 'Power Available' Light
- 'Breaker Open' Light
- 'Breaker Closed' Light

7.3.1.8.6 The instrumentation for each Generator must be, as a minimum:

- Ampere meter (Digital display accepted)
- Ammeter phase selector
- Volt Meter
- Voltmeter phase selector
- Frequency Meter
- Kw Meter
- Electronic Potentiometer for AVR adjustment
- Electronic Potentiometer for Gen speed adjustment
- 'Power Available' Light
- 'Breaker Open' Light
- 'Breaker Closed' Light
- 'Breaker Tripped' Light

7.3.1.8.7 The instrumentation listed the sections above is stated as a minimum requirement, the Contractor must ensure to meet TCMS requirements and the Class requirements.

7.3.1.8.8 The switchboard must be equipped with a Ground Fault detection for the main bus. The Ground Fault detection must indicate the insulation resistance (MΩ).

7.3.1.8.9 The switchboard must be equipped with an ammeter to monitor the current in the Tie Breaker.

7.3.1.9 Tie breaker

7.3.1.9.1 On the CCGS Caribou Isle, the Tie Breaker is operated closed at all times. The Tiebreaker can be enclosed, same as the Power breakers, and do not required to be motorized.

7.3.1.9.2 The Tie breaker must be provided with a light indicating 'TIE BREAKER CLOSED'. The light must be installed on the front panel, centre section.

7.3.1.10 Distribution breakers and cable entry

7.3.1.10.1 The proposed switchboard must be provided with all the distribution breakers. The distribution breakers may be located on the sides or the back of the switchboard. The Contractor may base his design on the existing location of the breakers and must ensure that the existing distribution cables can be retained.

7.3.1.10.2 The Contractor must design the switchboard in order to retain existing distribution cables.

7.3.1.10.3 All cable entry must be from the bottom of the cabinet, coming from underneath the floor plates.

7.3.2 New functionalities

7.3.2.1 Harbor Generator

7.3.2.1.1 In addition to the existing power source, the Contractor must include in his design, a fourth power source, to be a Harbor Generator.

7.3.2.1.2 The Harbor Generator must display the same instrumentation and controls as the two Ship Service Generators.

7.3.2.1.3 The instrumentation and controls must be grouped in the centre panel, below the shore power instrumentation.

7.3.2.1.4 It is CCG intention to install this Harbor Generator in a future, but the installation may be completed years after the switchboard. The contactor must provide a cover for the front instruments and controls. The cover must be the same material and colour as the switchboard, and permanently mounted with 316 SS fastener. The purpose of this cover is to hide the unused displays and controls thus avoiding confusion for the operator.

7.3.2.2 Supplementary Breaker

7.3.2.2.1 The Contractor must include in the new switchboard a new breaker 3 phase 100 amp. This breaker must be identified as ‘Crane Hydraulic Unit / Unité Hydraulique de la Grue’.

7.3.2.3 Switchboard Panel Lights

7.3.2.3.1 The switchboard must be equipped with lights fixtures to illuminate the front panel.

7.3.2.3.2 The light fixtures must be LED and suitable for use in the machinery space.

7.3.2.3.3 The light fixture must be 24Vdc and the power source will be provided from the ship. The switchboard must be equipped with terminal blocks

to accommodate the 24Vdc power cable. Switch board must have a minimum of 6 prewired terminal blocks (3x 24+ and 3x 24-).

7.3.2.4 Black Out Relay (Emergency Lights Circuit)

7.3.2.4.1 The provided switchboard must be equipped with as a minimum of a pair of dry contacts, having as function to close when the Main Bus is blacked-out. The contact must be rated for minimum 5 amps @ 24Vdc.

7.3.2.4.2 The two Dry-Contacts must be prewired 24Vdc+ and 24Vdc- in line with the suitable circuit protection.

7.3.2.4.3 The two dry-contacts must be wired to a pair of terminal blocks, for field connection.

7.3.2.4.4 The switchboard must be equipped with a Push-Button identified as 'E-Lights Test', wired to test the function of the circuit.

7.3.2.5 Power Breakers

7.3.2.5.1 The Contractor must include the appropriate motorized breakers for the four sources of power. The breakers must be of the appropriated rating for the application.

7.3.2.5.2 The power breakers may be enclosed in the switchboards in such a manner that manual operation would require opening of the front doors/panels.

7.3.2.5.3 Operator must be capable of reset a tripped breaker from a button the front panel.

7.3.2.6 Generator and Shore Synchronization

7.3.2.6.1 The Contractor must include in his design, all the equipment for the temporary synchronization between the different power sources.

7.3.2.6.2 Temporary synchronization signify the synchronization during the transfer from a power source to another, CCG have no interest for load sharing capabilities in this project.

7.3.2.6.3 The switchboard must have capability of synchronization between the following:

- Shore to Port Generator (and back)
- Shore to Stbd Generator (and back)
- Shore to Harbor Generator (and back)
- Port Gen to Stbd Gen (and back)
- Harbor Gen to Port Gen (and back)

- Harbor Gen to Stbd Gen (and Back)

7.3.3 Instrument and Control Identifications (Labeling)

7.3.3.1 All the identification and labeling of the front instrument panel and of the distribution panels must be bilingual (English/French).

7.3.3.2 The Contractor must provide the TA with the list of labels for the entire project. The TA will review and ask for correction if necessary. The purpose of this review is to ensure that the labeling is uniform and is standardized to the rest of the vessel. The Contractor must allow 3 business days for the TA to review.

7.3.3.3 The Contractor must ensure that the wording on final drawings correspond with the labeling on the switchboard.

7.3.4 Arc Flash Protection

7.3.4.1 The Contractor must perform an Arc Flash Study, in order to determine the Arc, Flash Bounday

7.3.4.2 The Contractor must perform an arc flash analysis as described in the section 8.0 of this specification and include in his design the required protections in order to limit the incident energy to 12cal/cm2 or lower.

The Contractor must also provide all the Arc Flash Warning labels as described in the section 8.0.

7.3.5 One Line Electrical Drawing

7.3.5.1 As part of this Contract, the Contractor must perform a complete survey on the electrical distribution system. The Contractor must also produce new one line electrical drawings. The new drawings must reflect the actual breaker capacities, loads and other changes.

7.3.5.2 The new drawings must be approved by TCMS and must replace the existing 42-83-600_1 and 42-83-600_2.

7.4 Proof of Performance

7.4.1 Plan Approval

7.4.1.1 The Contractor must submit all the drawing for TCMS plan approval.

7.4.1.2 The Contractor must ensure that all the drawings are approved by TCMS before installation begins.

7.4.2 Inspection

7.4.2.1 The Contractor must ensure against TCMS / Classification Society that all the required in-shop inspection are completed on time during the manufacturing process.

7.4.3 Certification

7.4.3.1 The Contractor must provide the Class certificate with the equipment.

7.5 Deliverables

7.5.1 Material

7.5.1.1 Contractor must provide and deliver the Switchboard as per SOR 7.3.

7.5.2 Documentation

7.5.2.1 Contractor must provide technical information on the proposed Switchboards. The documentation must demonstrate that the proposed equipment is compliant with all the requirements of section **Error! Reference source not found.** of this specification. The documentation must be submitted with the bidder's bid and must include the followings as a minimum:

- Make;
- Model;
- General Design information
- Technical specifications;
- Class approval;
- Duty cycle.
- Manufacturer's Warranty

7.5.2.2 Contractor must provide a detailed installation package. The installation package must be delivered in one (1) hard copy and one (1) electronic copy to the TA. All the drawings must be provided in both AutoCad 2010 DWG format or newer and PDFa format. The installation package must include the followings:

- Switchboard Dimensions Drawing;
- Switchboard Schematic (internal connections)
- One Line Electrical of the vessel as per SOR 7.3.5.

7.5.2.3 All TCMS approved drawing must be submitted to the TA within one (1) business days of reception. TA must by in copy of all communications with TCMS, including the drawing submission.

7.6 Spares

7.6.1 Contractor must provide a list of spare parts for the switchboards The list must include clearly identify parts that are critical spares and the unit price for each part.

7.6.2 Contractor must supply CCG with the following spare parts:

- One unit of each model of breaker used in the distribution side of the switchboard (not applicable to the Motorized breakers and the Tie);
- One unit of each model of instrument (indicator, display, selector, pushbutton and lights) on the front panel.

8.0 ARC FLASH ANALYSIS

8.1 Identification

8.1.1 The Canadian Coast Guard (CCG) has a requirement to asses and identify the Arc Flash Hazard on the new switchboard provided to the CCGS Caribou Isle.

8.1.2 The objective is to identify and quantify the Arc Flash Hazard. This includes: determining the electric circuits of Arc Flash Hazard concern; determining Equipment Location and collecting the input data; creating a One-Line Diagram Model; if required by TA, updating the Short-Circuit Current Study and Protective Device Coordination Study; performing arc flash calculations; delivering a draft report to the CCG Technical Authority (TA) for review and comments; providing and installing combined Arc Flash and Shock Warning Labels.

8.1.3 The Contractor must respect all CCG Fleet Safety Manual safety requirements. The Contractor must use their own PPE. There is no Contractor access to CCG network.

8.1.4 CCG will not supply any referenced Standards or Classification Society documentation.

8.1.5 The TA requires seven business days to review and make comments on the draft report.

8.2 References

8.2.1 Regulations and Standards

8.2.1.1 The Contractor must ensure all work completed meets the Standards and Regulations listed below as well as any other pertinent Federal/Territorial Regulation or Standard. In the event of any ambiguities, inconsistencies or conflicts among the documents listed, such ambiguities inconsistencies or conflicts must be resolved by giving precedence to the wording of the document which first appears on the list over the wording of any document which subsequently appears on the list:

a) TP127E: http://www.tc.gc.ca/eng/marinesafety/tp-tp127-menu-263.htm
b) DFO/5737 - CCG Fleet Safety Manual
c) Standard IEEE 45-2002 Recommended Practice for Electrical Installations on Shipboard, 2002
d) Standard IEC 60092-202: 1994 Electrical Installations in Ships – Part 202: System Design – Protection

e) Standard IEC 61363-1:1998 Electrical Installations of Ships and Mobile Fixed Offshore Units – Part 1: Procedures for Calculating Short-Circuit Currents in Three-Phase A.C.
f) Standard CSA Z462-18 Workplace Electrical Safety, 2018
g) Standard IEEE 1584-2002, Guide to Performing Arc Flash Hazard Calculations, 2002

8.2.2 Definitions

8.2.2.1 Arc Flash Hazard – defined in the section Definitions of CSA Z462.

8.2.2.2 Arc Flash Analysis – equivalent to the incident energy analysis as it is defined in CSA Z462.

8.2.2.3 Arc Flash Boundary – defined in the section Definitions of CSA Z462.

8.2.2.4 Arc Flash and Shock Warning Label – combined label with detailed electrical hazard information (Annex 1).

8.2.2.5 Equipment Location – location of equipment in the shipboard electric system where identification of Arc Flash Hazard is required.

8.2.2.6 Incident Energy – defined in the section Definitions of CSA Z462.

8.2.2.7 One-Line Diagram Model – an approximated representation of ship's electric power system built in Power System Analysis Software.

8.2.2.8 Power System Analysis Software – dedicated computer analysis software capable to perform short circuit study based on IEC 61363 calculation method, protective device coordination and arc flash analysis based on IEEE 1584 calculation method.

8.2.2.9 Protective Device Coordination Study – engineering study used to determine the time required for electrical circuit protective devices to isolate overload or short circuit conditions.

8.2.2.10 Shock Hazard – defined in the section Definitions of CSA Z462.

8.2.2.11 Short Circuit Study – engineering study used to determine the fault current momentary duty, interrupting rating, and short circuit (withstand) rating of electrical equipment.

8.2.2.12 Working Distance – defined in the section Definitions of CSA Z462.

8.3 Technical

8.3.1 The Contractor must perform Arc Flash Analysis using the Power System Analysis Software and must state and substantiate all assumptions made:

8.3.1.1 The Power System Analysis Software selected by the Contractor must be capable of:

a) arc-flash calculations for 3 phase AC circuits based on the IEEE 1584 empirically derived model documented in Section D.4 of CSA Z462-18.
b) IEC 61363 method of short-circuit currents calculations as the input for the arc-flash calculation algorithm.
c) arc-flash calculations for DC circuits based on the Maximum Power Method documented in Section D.5 of CSA Z462-18 or other industry-accepted methods.

8.3.2 Determine the electric circuits of Arc Flash Hazard concern:

8.3.2.1 The Contractor must refer to ship's one line diagram to identify the ship's 3-phase AC circuits of Arc Flash Hazard concern. DC circuits must be included for the analysis if they are 100V and above, are part of a large UPS installation or ship's propulsion system where work may have be performed while the systems are energized.

8.3.2.2 The Contractor may make the following assumptions:

a) the conservative assumption that all distribution panels and motor control centers downstream of a panel that is determined to have incident energy of 12 cal/cm^2 or lower are of the same rating as the upstream panel;
b) an assumption that available short circuit current from shore power connection does not exceed the interrupting capacity of shore power protective device installed onboard the vessel (see 8.7 of TP127E).
c) may use IEEE 1584 default values for working distances based on the class of equipment.
d) may use default values referenced in Section 5.9 of IEEE 45 and Section 5 of IEC 60092-202 as the guidance for short circuit current calculations and protective device coordination for ships.

8.3.3 Determine Equipment Location and collect the input data;

8.3.3.1 The Contractor must visit the ship to identify all Equipment Locations requiring Arc Flash Hazard identification and collect the data to perform Arc Flash Analysis. The data must account for contribution to the arc fault of generators, electric conductors, transformers and motors at the actual trip setting of protective devices. The data may be collected from all available sources (studies, drawings, manufacturer's manuals, data bases, name plates, etc.) but must be validated against characteristics of existing equipment and actual trip settings of protective devices. Circuit cable lengths may be estimated from ship's general arrangement plan. In the absence of precise data, the Contractor may refer to Section 5.9 of IEEE 45 and Section 5 of IEC 60092-202 for default values. All assumptions must be clearly stated and substantiated.

8.3.4 When entering the data in the software, the Contractor must maintain the naming convention applicable for this particular vessel, e.g. names of breakers, feeders, switchboards, generators, etc. Input data must include, but not be limited to the following:

a) Feeder input data including feeder type (cable or bus), the Standard to which it has been constructed (see 12.9 of TP127E), size, length, number of conductors per phase, current carrying capacity, impedance.
b) Transformer input data, including winding connections (primary and secondary), primary and secondary voltage ratings and full load current, kVA rating, power factor, impedance.
c) Generator contribution data including short-circuit reactance (X"d), rated kVA, rated power factor, rated voltage, rated full load current, impedance and X/R ratio.
d) Shore power contribution data.
e) Motor contribution data (induction motors and synchronous motors), including short-circuit reactance (X"d), rated kVA or kW, rated power factor, rated voltage, rated full load current, impedance and X/R ratio.
f) Identification of protective device, device function, manufacturer, model number (circuit breaker and trip unit), type of trip unit (thermal magnetic, magnetic only, electronic), current interrupting rating (IR), adjustable pickups and time delays (long time, short time, instantaneous).
g) Circuit breaker characteristic time-current curves (TCC).

8.3.5 The Contractor must create a One-Line Diagram Model.

8.3.5.1 The Contractor must create an equivalent One-Line Diagram Model of the applicable ship's electrical systems by entering the collected data into the Power System Analysis Software. The Model must be consistent with existent ship's one-line diagram, must use the same naming convention, must include all Equipment Locations requiring Arc Flash Hazard identification and must include all circuits that require analysis for protective coordination purposes (see 8.3 and 35 of TP127E). All other circuits may be represented as equivalent impedance loads on the system but must not be neglected. All protective devices must have created and plotted time current curves (TCC) and to be additionally identified on one-line diagram with their IR ratings and trip settings.

8.3.5.2 Validate One-Line Diagram Model. The Contractor must run short circuit analysis function based on IEC 61363 calculation method and protective device coordination function of the Power System Analysis and obtain the results. The guidance of Section 8.7 of TP127E must be followed.

The results must demonstrate consistency with existent Short-Circuit and Protective Device Coordination Studies, interrupting rating (IR) and trip settings of existing protective devices. The Contractor must revise the assumptions and default values used to build the One-Line Diagram Model if consistency cannot be obtained.

8.3.5.3 The Contractor must update Short-Circuit Current Study and Protective Device Coordination Study.

8.3.6 The Contractor must perform arc flash calculations.

8.3.7 The Contractor must take into account the ship's interlocking arrangements for normal operating conditions and consider at least the following modes of operation:

a) Maximum generators are connected under normal operating conditions;
b) Only one generator is connected under normal operating conditions;
c) Only Harbour Generator (if applicable) is connected;
d) Shore power is connected.

8.3.8 The Contractor must provide tabulated data for the worst case scenario. The table must contain, but not be limited to:

a) Equipment Location;
b) Short circuit fault current;
c) Arcing current;
d) Protective device clearing time;
e) Arc Flash Boundary;
f) Working Distance;
g) Incident Energy.

8.3.9 The Contractor must provide Arc Flash and Shock Warning Labels and one-line diagram. The one-line diagram must be based on the One-Line Diagram Model with identification of all Equipment Locations to which every Arc Flash and Shock Warning Label belongs.

8.3.10 The Contractor must provide recommendations in the report on available options to reduce the calculated incident energy to the level when cumbersome PPE would not be required for routine maintenance and watch keeping activities.

8.4 Deliverables

8.4.1 Deliver the draft report to the TA for review and comments:

8.4.1.1 The Contractor must deliver the draft report to the TA for review and comments, in English. The Contractor must not produce any warning labels until comments have been received from the TA.

8.4.2 Provide and install combined Arc Flash and Shock Warning Labels:

8.4.2.1 The Contractor must supply and install two sets of labels. One must be in English, the second set of labels must be in French.

8.4.2.2 The Contractor must provide at least a 3.5 in. x 5 in. thermal transfer type label of high adhesion polyester for each Equipment Location.

8.4.2.3 All labels must indicate the worst case scenario data based on existing protective device settings and must be provided after the report has been approved by TA.

8.4.2.4 Arc Flash and Shock Warning Labels must be installed for the following Equipment Locations of Arc Flash Hazard concern:

a) One label for each section of switchboard identified of being Arc Flash Hazard concern;
b) One label for each motor control center;
c) One label for each electric distribution panel;
d) One label for each electric switchgear;
e) One label for electric connection box of each generator, propulsion motor, side thruster motor, motor-generator set, other motor of equivalent size;
f) One label for each transformer.

8.4.2.5 The label must have an orange header with the wording "WARNING". The label must be identical to the template in Annex 1 and must include the following information:

a) Working Distance;
b) Incident Energy;
c) Arc Flash Boundary;
d) Nominal voltage of Shock Hazard;
e) Limited approach boundary;
f) Restricted approach boundary;
g) Glove class;
h) Equipment Location;
i) File name (One-Line Diagram Model file name);
j) Contractor company name;
k) Date on which Arc Flash Analysis has been completed;
l) Standard according to which arc flash analysis has been completed;

8.4.2.6 The Contractor must install the labels onboard the vessel for each Equipment Location.

8.5 Proof of Performance

8.5.1 Inspection Points

8.5.1.1 The Contractor must provide an overall photo of the switchboard after installation of the labels.

8.5.2 Certification

8.5.2.1 The Arc Flash Analysis studies must be conducted under the supervision and approval of a Registered Professional Electrical Engineer. All deliverables must be marked with the approval of this Professional Engineer.

8.5.2.2 The Registered Professional Electrical Engineer must have a minimum of three years of experience in performing power system studies.

8.5.2.3 The Contractor must demonstrate recent experience with Arc Flash The recent experience must be demonstrated by submitting names of at least three different customers, for which the Contractor has successfully performed Arc Flash Analysis in the past three years.

8.5.3 Documentation

8.5.3.1 The Contractor must produce the technical report in accordance with the requirements here in using IEEE 1584 for guidance as needed.

8.5.3.2 The report must include a summary, methodology used, modes of operation evaluated, collected input data, assumptions, time-current curves, study results and recommendations. The recommendations must provide options to reduce the incident energy to the level when cumbersome PPE would not be required for routine maintenance and watch keeping activities. Where changes to the settings of protective devices might not be efficient, installation of additional equipment, such as arc flash optical detection relays, should be recommended.

8.5.3.3 If it was required by TA, the Contractor must additionally provide updated Short-Circuit Study and Protective Coordination Study.

8.5.3.4 The report must be submitted to the TA in unprotected original electronic format using Microsoft suite of tools, in English.

8.5.3.5 The Contractor must provide the One-Line Diagram Model (computer file) with the name and version number of the Power System Analysis Software in which it was created, and configuration settings. The file name must be based on CCG ship’s name.

9.0 SWITCHBOARD INSTALLATION

9.1 Identification

9.1.1 The Canadian Coast Guard require installation of the switchboard, designed and fabricated in section 7.0 of this specification. Special consideration must be made to the services that has to be provided to the vessel during the work period.

9.2 References

9.2.1 Equipment Data

9.2.1.1 Provide details on the equipment being worked on – i.e. model and serial numbers

9.2.2 Drawings

Drawing Number	Description
42-83-300	General Arrangement
42-83-600_1	One Line Electrical Diagram
42-83-600_2	One Line Electrical Diagram – Distribution Panels

9.2.3 Regulations

9.2.3.1 Canada Shipping Act 2001(2001, c.26)

9.2.3.2 SOR/90-264, Marine Machinery Regulations

9.2.4 Standards

9.2.4.1 IEEE 45, Recommended Practice for Electrical Installations on Shipboard

9.2.4.2 TCMS; TP 127E Electric Standards (2008)

9.3 Technical

9.3.1 General

9.3.1.1 All the material and equipment must enter the engine room though the Cargo hold hatch (90” x 60”) and the soft patch opening (64” Wide X 30” High)

9.3.2 Switchboard removal

9.3.2.1 The Contractor must uninstall and remove the existing Switchboard

9.3.2.2 The Contractor is responsible for disconnection and identification of all the cables.

9.3.2.3 The Contractor must pay attention not to damage the cabling during execution of the work. The Contractor must replace all the cable damaged by negligence, at his own expense. If during the work, the Contractor notice damages to a cable or a piece of equipment, he must immediately advise the TA.

9.3.2.4 All removed equipment remain the property of CCG.

9.3.3 Switchboard Installation

9.3.3.1 The Contractor must install and secure the new switchboard in place. All fasteners must be 316 Stainless Steel.

9.3.3.2 The existing ships cables must be retained. The Contractor must Megger the insulation resistance of each cable, then compile the readings in a report that must be presented to the TA. The report must contain the date, Name of the technician, make, model and serial number of the meter used for the test as well as a copy of the last calibration certificate. All the cables found unfit for further use by the TA will have to be replaced in accordance with section 9.3.3.4 of this specification.

9.3.3.3 The Contractor must terminate all the cables in accordance to the approved drawings. All existing cables must be terminated directly to the breakers. CCG will not accept any junctions, if a cable can reach its new breaker location, it must be replaced in accordance to section 9.3.3.4 of this specification.

9.3.3.4 In the event that a cable is damaged or need to be replaced, the Contractor must replace the cable in its entire length. The Contractor must bid on a price per meter for cable replacement (Labour only). The cost for cable replacement will be adjusted in accordance with the PSPC 1379 process, with the price per meter for labour and the cost of the cable plus 10 %.

9.3.4 Integration of the new generators

9.3.4.1 CCG is replacing both ship service generator under a different Contract.

9.3.4.2 The Contractor will be responsible for the termination of his synchronization equipment in the switchboard.

9.3.4.3 The Contractor will be responsible for the termination of the new Power Cable from the Generators, into the breaker.

9.3.4.4 All the cables will be provided and installed with the Generators, under another Contract.

9.4 Proof of Performance

9.4.1 Inspections

9.4.1.1 Contractor must arrange all required TCMS inspections and approvals to ensure the system is certified upon Contract completion.

9.4.1.2 All TCMS inspection fees are at CCG expense.

9.4.2 Commissioning and Set to Work

9.4.2.1 Before powering up, the Contractor must ensure that all the phases of the distribution is clear of ground fault, using a calibrated megger.

9.4.2.2 The Contractor must also pay careful consideration to the phase order. The phase order must be validated on an existing ship's equipment (i.e. Electrical Motor) in a manner that accidental reverse rotation will not cause any damages. This verification must be made before powering-up any load in the vessel.

9.4.2.3 During the commissioning, the Contractor is responsible for doing a complete calibration the synchronizing system and must ensure that all functionalities are in working order. The calibration and troubleshooting must be completed before the Dock Trials.

9.4.2.4 The Contractor must provide the TA with a commissioning report. The report must include the narrative description of the work done, all the values and settings of the equipment, all measures and observation made, as well as a statement that the equipment have need installed as per manufacturer's requirement.

9.4.3 Dock Trials

9.4.3.1 As dock trials, the Contractor must demonstrate all the functionalities of the new switchboard. The Contractor must provide a list of all the charges directly powered from the SWB and prove that they are powered.

9.4.3.2 The Contractor must also demonstrate the temporary synchronization. The Contractor must switch the power source from Shore power to Generator and back. The demonstration must be made for switching on each Generators from shore power and from one generator to the other.

9.4.3.3 Dock Trials must be witnessed by the TA and TCMS inspector. TCMS inspection fees are at CCG expense.

9.4.3.4 Commissioning and Dock Trial report must contain all test raw data and description of all tests completed. The report must be submitted to the TA within two (2) days after completion of commissioning.

9.5 Deliverables

9.5.1 Material and Labour

9.5.1.1 The Contractor must provide all material and labour to complete the work specified in the section 9.0 of this specification.

9.5.2 Documentation

9.5.2.1 Within 10 days after completion of the Dock Trials, the Contractor must provide 'as fitted' drawings. Those drawings must reflect the changes that occurs during the installation process. The drawings must be submitted in PDFa, and be stamped with the mark 'AS FITTED'. Those drawing must also be submitted in AutoCad 2010 DWG format, 2010 or newer, and in one paper copy in the original drawing size.

10.0 PURCHASE OPTIONS

10.1.1 The Contractor must provide the price for supplementary purchase of the entire package of equipment, engineering and documentation, as described in this specification.

10.1.2 The Contractor must provide pricing for two different scenarios:

- Purchase only: Purchase of the equipment, engineering and drawings as specified in the section 6.0 of this document.
- Purchase and Installation: Purchase of the equipment, engineering and drawings as per section 6.0 and Installation of the equipment as per section 7.0 of this document.

10.1.3 The purchase option must be valid for 2 supplementary switchboards of similar design with all related material, drawings and arc flash study as specified in the sections 7.0 and 8.0 of this documents.

10.1.4 The Contractor must take in account that the deliverables for each of the options have to be 'ship specific'. The data collection, engineering calculations and the drawings must be validated by the Contractor in order for the CCG to accept the deliverables.

10.1.5 Contractor must advise if supplementary fees are applicable to obtain bilingual (English and French) documentation and French training.

10.1.6 The options must be valid for purchase for a period of 24 months after the award date of the original Contract.

10.1.7 CCG does not guarantee purchase of those options. For the financial bid evaluation purposes, CCG will consider 2 option purchased.

11.0 ANNEX 1– TEMPLATE OF COMBINED ARC FLASH AND SHOCK WARNING LABEL