

**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 0A1 / Noyau 0A1**  
**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**

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

### **Issuing Office - Bureau de distribution**

Marine Machinery and Services / Machineries et services maritimes  
11 Laurier St. / 11, rue Laurier  
6C2, Place du Portage  
Gatineau  
Québec  
K1A 0S5

<b>Title - Sujet</b> INSPECTION & CERTIFICATION WINDLASS	
<b>Solicitation No. - N° de l'invitation</b> F3019-13R056/A	<b>Date</b> 2013-09-17
<b>Client Reference No. - N° de référence du client</b> F3019-13INR056	<b>GETS Ref. No. - N° de réf. de SEAG</b> PW-\$\$ML-005-24029
<b>File No. - N° de dossier</b> 005ml.F3019-13R056	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2013-10-23</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Burns, Robert	<b>Buyer Id - Id de l'acheteur</b> 005ml
<b>Telephone No. - N° de téléphone</b> (819) 956-1199 ( )	<b>FAX No. - N° de FAX</b> (819) 956-0897
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF FISHERIES AND OCEANS NGCC PIERRE RADISSON 101 BOUL.CHAMPLAIN QUEBEC Quebec G1K7Y7 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

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

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## PART 1 - GENERAL INFORMATION

### 1.1 Introduction

The bid solicitation is divided into seven (7) parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, 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
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment, the Insurance Requirements and other Annexes.

### 1.2 Summary

#### 1. The Requirement is:

- a) to carry out the inspection and repair, if necessary, to obtain the re-certification of the Windlass on the Canadian Coast Guard Vessel CCGS Pierre Radisson in accordance with the associated Statement of Work detailed in Annex "A".
- b) to carry out unscheduled work authorized by the Contracting Authority.
- c) the Contractor must have completed a detailed work schedule for the kick-off meeting.

#### 2. Bidders must provide a list of names, or other related information as needed, pursuant to section 01 of Standard Instructions 2003.

#### 3. 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 Agreement on Internal Trade (AIT). The sourcing strategy relating to this procurement will be limited to suppliers in Eastern Canada, in accordance with Shipbuilding, Refit, Repair and Modernization Policy (1996-12-19).

### 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.

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## PART 2 - BIDDER INSTRUCTIONS

### 2.1 Standard Instructions, Clauses and Conditions

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

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

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

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

### 2.2 Submission of Bids

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

### 2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than **three (3) working 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

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

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.

**Refer to Annex "H1" for Deliverables/Certifications.**

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## 2.5 Optional Site Visit - Vessel

It is recommended that the Bidder or a representative of the Bidder visit the work site. The site visit will be held on October 17, 2013 at 10:00 onboard the CCGS Pierre Radisson, located at the Coast Guard Base in Quebec city, QC. Bidders must communicate with the Contracting Authority no later than **three (3) working days** before the scheduled visit to confirm attendance and provide the name(s) of the person(s) who will attend. Bidders who do not confirm attendance and provide the name(s) of the person(s) who will attend as required will not be allowed access to the site. Bidders will be requested to sign an attendance form. Bidders who do not attend or send a representative will not be given an alternative appointment but they will not be precluded from submitting a bid. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

## 2.6 Work Period - Marine

Work must commence and be completed as follows:

**Commence: October 31, 2013**

**Complete: November 27, 2013**

By submitting a bid, the Bidder certifies that they have sufficient materiel and human resources allocated or available and that the above work period is adequate to both complete the known work and absorb a reasonable amount of unscheduled work.

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

### **3.1 Bid Preparation Instructions**

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

- Section I - Technical Bid (2 hard copies)
- Section II - Financial Bid (1 hard copy)
- Section III - Certifications (1 hard copy)

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

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

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

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

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

#### **Section I: Technical Bid**

The Bidder must provide all of the deliverables as referenced in Annex "I1" Deliverables and Certifications.

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

Bidders must submit their financial bid in accordance with the Financial Bid Presentation Sheet in Annex "G", and the detailed Pricing Data Sheet, Appendix 1 to Annex "G". 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 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 anticipated cost for the unscheduled work will be included in the evaluation price. The evaluation price will be calculated by including an estimated amount of additional person-hours multiplied by a firm hourly charge-out labour rate for unscheduled work and will be added to the firm price for the known work.



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The Evaluation Price will be used for evaluating the bid. The additional amount of person-hours for unscheduled 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.

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## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **4.1 Evaluation Procedures**

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

#### **Section I - Technical Bid / Certifications**

Notwithstanding deliverable requirements specified within the bid solicitation and its associated Statement of Work Annex "A", mandatory deliverables that must be submitted with the Bidder's bid to be deemed responsive are summarized in Annex "H1".

#### **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.

### **4.2 Evaluation of Price**

#### **SACC Manual Clause A0220T (2013-04-25) Evaluation of Price**

### **4.3 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 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.

### **4.4. Deliverables after Contract Award**

Refer to Annex "H2".

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## **PART 5 - CERTIFICATIONS**

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

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

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

### **5.1 Mandatory - Certifications Required Precedent to Contract Award**

#### **5.1.1 Code of Conduct and Certifications - Related documentation**

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

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

### **6.1 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 "H1" for Deliverables/Certifications.**

### **6.2 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 "H1" for Deliverables/Certifications**

### **6.3 Preliminary Work Schedule**

At the time of bid closing the Bidder must submit to Canada one (1) copy of its preliminary production work schedule. This schedule is to show the commencement and completion dates for the Work in the available work period, including realistic target dates for significant events. This schedule will be reviewed with the successful Bidder at the Pre-Refit Meeting.

**Refer to Annex "H1", Deliverables/Certifications.**

### **6.4 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 modelled 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 6.10

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 "H1" for Deliverables/Certifications.**

### **6.5 Health and Safety**

The Bidder must submit with its bid objective evidence 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 "H1" for Deliverable Requirements.**

## 6.6 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.

## 6.7 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 "C". If this information is not provided with the bid it will render the bid non-responsive.

**Refer to Annex "H1", Deliverables/Certifications.**

## 6.8 Welding Certification

1. Welding must be performed by a welder certified by the Canadian Welding Bureau and in accordance with the requirements of the following Canadian Standards Association (CSA) standards:
  - (a) CSA W47.1-03, Certification for Companies for Fusion Welding of Steel (Minimum Division Level 2.1); and
  - (b) CSA W47.2-M1987 (R2003), Certification for Companies for Fusion Welding of Aluminum (Minimum Division Level 2.1).

The bidder shall submit proof of certification with the bid. The certification shall remain valid for the duration of the contract. If this information is not provided with the bid it will render the bid non-responsive.

**Refer to Annex " H1" for Deliverables/Certifications.**

## 6.9 List of Proposed Subcontractors

If the bid includes the use of subcontractors, the Bidder shall provide a list of all subcontractors including a description of the things to be purchased, a description of the work to be performed by specification section and the location of the performance of that work. The list should not include the purchase of off-the-shelf items, software and such standard articles and materials as are ordinarily produced by manufacturers in the normal course of business, or the provision of such incidental services as might ordinarily be subcontracted in performing the Work, i.e. subcontract work valued at less than \$ 5,000.00 aggregate for the project.

**Refer to Annex "H1" for Deliverables/Certifications.****6.10 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 "H1" for Deliverables/Certifications.****6.11 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 "H1" for Deliverables/Certifications.****6.12 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 "H1" 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 Contractor must:

- a) to carry out the inspection and repair, if necessary, to obtain the re-certification of the Windlass on the Canadian Coast Guard Vessel CCGS Pierre Radisson in accordance with the associated Statement of Work detailed in Annex "A".
- b) to carry out unscheduled work authorized by the Contracting Authority.
- c) the Contractor must have completed a detailed work schedule for the kick-off meeting.

### 7.2 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual

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

#### 7.2.1 General Conditions

**1031-2 (2012-07-16), Contract Cost Principles, apply and form part of the Contract.**

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

**2030 (2013-03-21) 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:

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.

- 
- (b) All other painting work for a period of 365 days commencing from the date of acceptance of the Work;
- (c) 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.
4. Refer to Annex "D" and its Appendix "1" for Warranty Defect Claim Procedures and forms.

### **7.2.2 Supplemental General Conditions**

**1029 (2010-08-16) Ship Repairs - (excluding article 09) apply and form part of the Contract**

### **7.3 Security Requirement**

There is no security requirement applicable to this Contract.

### **7.4 Term of Contract**

#### **7.4.1 Work Period - Marine**

1. Work must commence and be completed as follows:

Commence: October 28, 2013

Complete: November 30, 2013

2. 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.

### **7.5 Authorities**

#### **7.5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Robert Burns



Department of Public Works and Government Services Canada (PWGSC)  
 Defence and Major Projects Sector  
 PWGSC, 6C2 Place du Portage, Phase III  
 11 Laurier Street,  
 Gatineau, Quebec, K1A 0S5  
 Tel: (819) 956-1199 Fax: (819) 956-0897  
 E-Mail - robert.burns@pwgsc.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.

### 7.5.2 Technical Authority

The Technical Authority for the Contract is:

Fisheries and Oceans Canada  
 Canadian Coast Guard  
 Marine Engineering Division – QBC  
 101 Champlain Boulevard  
 Québec, Qc G1K 7Y7  
 Office: 1-126  
 Canada  
 Telephone : 418-648-3208  
 Fax : 418-648-5247  
 E-mail : Jean-Francois.Thibault@dfo-mpo.gc.ca

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

### 7.5.3 Inspection Authority

The Inspection Authority for the Contract is the Canadian Coast Guard.

Name will be determined at Contract Award

Name: \_\_\_\_\_  
 Telephone: \_\_\_\_\_  
 Cell: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 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.

## 7.5.4 Contractor Contacts

Name and Telephone numbers of person responsible for:

### General Enquiries:

Name \_\_\_\_\_ Telephone Number \_\_\_\_\_  
Fax Number \_\_\_\_\_ E-mail Address \_\_\_\_\_

### Delivery Follow-up:

Name \_\_\_\_\_ Telephone Number \_\_\_\_\_  
Fax Number \_\_\_\_\_ E-mail Address \_\_\_\_\_

**Refer to Annex "H1" for Deliverables/Certifications.**

## 7.6 Payment

### 7.6.1 Basis of Payment - Firm Price

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

No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Specifications, will be authorized or paid to the Contractor unless such design changes, modifications or interpretations have been authorized in writing, by the Contracting Authority prior to their incorporation in the Work.

### 7.6.2 Terms of Payment - Progress Payment

1. Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for cost incurred in the performance of the Work, 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 <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/1111.pdf>, 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 amount claimed is in accordance with the basis of payment;
  - (c) the total amount for all progress payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
  - (d) all certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives.
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.

3. Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the rights to make adjustments to the Contract from time to time during the performance of the Work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

#### **7.6.3 Liens - Section 427 of the Bank Act**

**SACC Manual Clause H4500C (2010-01-11) Liens - Section 427 of the Bank Act**

#### **7.6.4 Limitation of Price**

**SACC Manual Clause C6000C (2011-05-16) Limitation of Price**

#### **7.6.5 Time Verification**

**SACC Manual Clause C0711C (2008-05-12) Time Verification**

### **7.7 Invoicing Instructions**

The Contractor must submit invoices in accordance with the information required in Section 13 of 2030, General Conditions, Higher Complexity, Goods and Article 7.5 Payment and Article 7.6 Invoicing Instructions.

#### **7.7.1 Invoices**

1. Invoices are to be made out to:

Department of Fisheries and Oceans  
Canadian Coast Guard  
Finance  
Quebec Region  
101, Blvd. Champlain  
Québec, QC  
G1K 7Y7

And

#### **The original invoice to be forwarded for verification to:**

Public Works and Government Services Canada  
Marine Systems Directorate  
Marine Sector  
11 Laurier Street, Place du Portage  
Phase III, 6C2  
Gatineau, Quebec  
K1A 0S5  
Attention: Robert Burns

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.

## 7.7.2 Invoicing Instructions - Progress Claim

1. The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111  
<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/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 the section entitled "Invoice Submission" of the general conditions;
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 Contracting Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

The Contracting 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.

## 7.7.3 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.

## 7.8 Certifications

### 7.8.1 Compliance

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification, provide the related documentation or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

## 7.9 Applicable Laws

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

## 7.10 Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the Supplemental General Conditions 1029, (2010-08-16), Ship Repairs;
- (c) the General Conditions 2030, (2013-06-01), General Conditions - Higher Complexity - Goods;
- (d) the General Conditions 1031-2, (2012-07-16), Contract Cost Principles;
- (e) Annex "A", Statement of Work;
- (f) Annex "B", Basis of Payment;
- (f) Annex "C", Insurance Requirements;
- (g) Annex "D", Warranty;
- (h) Annex "E", Procedure for Unscheduled Work;
- (i) Annex "F", Quality Control/Inspection;
- (j) Annex "G", Financial Bid Presentation Sheet;
- (k) Annex "H", Deliverables/Certifications;
- (l) the Contractor's bid dated \_\_\_\_\_ (insert date of bid), as amended \_\_\_\_\_ (insert date(s) of amendment(s) if applicable)

## 7.11 Defence Contract

**SACC Manual Clause A9006C (2012-07-16) Defence Contract**

## 7.12 Insurance Requirements

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

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

The Contractor must forward to the Contracting Authority within **ten (10) working 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.

**Refer to Annex "H2" for Deliverables/Certifications.**

## 7.13 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:

(a) any infringement of intellectual property rights;

(b) any breach of warranty obligations; or

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.

#### 7.14 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.

#### 7.15 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.

#### 7.16 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.

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### 7.17 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.

### 7.18 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.

### 7.19 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 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.

**Refer to Annex "F" for details.**

### 7.20 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 "F" for details.**

## 7.21 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 material and services provided conform to contract requirements.

**Refer to Annex "F" for details.**

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

## 7.23 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.



## **7.24 Fire Protection, Fire Fighting and Training**

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

## **7.25 Welding Certification**

1. The Contractor must ensure that welding is performed by a welder certified by the Canadian Welding Bureau (CWB) in accordance with the requirements of the following Canadian Standards Association (CSA) standards:
  - (a) CSA W47.1-03, Certification for Companies for Fusion Welding of Steel (Minimum Division Level 2.1); and
  - (b) CSA W47.2-M1987 (R2003), Certification for Companies for Fusion Welding of Aluminum (Minimum Division Level 2.1).
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 intended to be used in the completion of the work. The list must identify the CWB welding procedure qualifications attained by each of the personnel listed and must be accompanied by a copy of each person's current CWB welding certification.

## **7.26 Procedures for Design Change or Additional Work**

**SACC Manual Clause B5007C (2010-01-11) Procedures for Design Change or Additional Work - In addition, refer to Annex "E".**

## **7.27 Vessel Manned Refits**

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

## **7.28 Pre-Refit Meeting**

A Pre-Refit meeting will be convened and chaired by the Contracting Authority at the CCG facility at a time to be determined. At that meeting the contractor will introduce all its management personnel as per its organization chart, and Canada will introduce authorities. Details of ship's arrival and work commencement will be discussed.

## **7.29 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

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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.

### **7.30 Site Regulations**

The Contractor must comply with all rules, instructions and directives in force on the site where the Work is performed.

### **7.31 Scrap and Waste Material**

Despite any other provision of the Contract, scrap and waste materials other than accountable material, derived from the Contract, will revert to the Contractor as part of the Contract Price.

### **7.32 Workers Compensation**

The Contractor must maintain its account in good standing with the applicable provincial or territorial Workers' Compensation Board for the duration of the Contract.

### **7.33 Licensing**

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

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**ANNEX "A"****INSPECTION AND CERTIFICATION OF HEPBURN WINDLASS**

Provide the equipment and labour to perform the work required for the inspection and five-year re-certification of the Hepburn windlass.

The work will be done between October 28 and November 30, 2013 and the Contractor must have completed a detailed work schedule for the kick-off meeting.

Before beginning the work, the vessel's crew will perform a demonstration of the proper operation of the apparatus for the Contractor and subcontractors. Any operational anomalies observed during this demonstration must be reported to the vessel's Chief Engineer immediately.

Coordination of the work will be supervised by the Chief Engineer, assisted by the Chief Officer of the vessel. The Contractor will be responsible for coordinating the inspections with the various inspection authorities and Transport Canada. The Contractor will also be responsible for paying the Transport Canada inspection fees.

The Contractor will then have to set up and start the work safely and in compliance with on-board regulations.

Accurate measurements will be taken of all components and noted in a final report, which will describe all the work carried out. This report must also include all certificates, subcontractor reports (hydraulic, electrical, electric motor, mechanical and painting companies), the measures required for the electrical and mechanical components, a description of the work performed and the list of parts replaced. It must be done in a professional manner. Three copies and a copy on CD in PDF format will be given to the Chief Engineer when the work is completed.

All parts found to be defective or too worn out will be replaced with equivalent parts supplied by the Contractor, with approval by the vessel's Chief Engineer. The costs will be negotiated separately using form PWGSC 1379.

If hot work is required, the Contractor must obtain a hot work permit signed by the Chief Engineer before starting the work and must follow up according to the requirements listed on the permit.

All work must be to the complete satisfaction of the vessel's Chief Engineer and the Transport Canada inspector.

There will be no crane service available on board the vessel or at the CCG base. The Contractor will have to provide their own crane services.

The Contractor must provide its own equipment, scaffolding and lift equipment that is certified and in good condition.

There will be no rooms or washrooms available for the company's personnel or its subcontractors.

The Contractor must leave the vessel in the same state of cleanliness as before the work started.

The electrical work must be done by a firm with maritime experience and a very good history of working on CCG vessels. The firm must provide certified electricians.

The hydraulic work must be done by a firm with maritime experience and a very good history of working on CCG vessels.

The company may take the windlass to its workshop to facilitate the work. It may also do the work on board. If the Contractor decides to remove the windlass, it must properly secure the chains and anchors. The vessel's crew will prepare and paint the base of the windlass while it is removed.

The hydraulic unit is located under the windlass, in the room called the bosun store (magasin du maître d'équipage).

The following work must be done on the windlass:

1. Empty the oil from the transmission case (380 litres Mobil SHC 629) and the hydraulic unit (325 litres Petro-Canada Hydrex 22). Immediately dispose of it in accordance with the environmental regulations in effect. Do not leave waste oil containers on the vessel deck or the CCG wharf.
2. Completely disassemble the windlass parts.
3. Clean the parts.
4. Verify the condition of all shaft sleeves and bearings, take measurements and record them in the report.
5. Verify all the lubrication points. Replace all the grease nipples (buses de graissage) with 316 high-pressure stainless steel nipples. All components must be lubricated with grease (Petro-Canada PXL2C30, Precision XL EP2) supplied by the Contractor.
6. Do a dye penetrant (NDT) inspection of all pins and gears to detect any fissures and provide a report of the trial runs.
7. Verify the straightness of the shafts. Provide a report of this verification.
8. Show the replacement parts and measurements to the TC inspector and CCG representative. All parts deemed to be damaged following this inspection will be replaced and treated separately via form PWGSC 1379.
9. Reassemble all the parts as described in the manufacturer's user guide with new, high-quality packing seals (OEM, if available).
10. All nuts, bolts and washers (flat and lock) in the seating of the various equipment must be replaced by new, Grade 5 parts with the same dimensions. All other disassembled nuts, bolts and washers (flat and lock) must be replaced by new parts of the same grade and dimensions. Everything must be reassembled with a high-quality anti-seize paste.
11. The Contractor must supply and replace the filter component in the hydraulic system.
12. Clean the hydraulic oil tank and transmission case and have it inspected by the vessel's Chief Engineer before closing it. Close the inspection plates with new packing seals.
13. Replace all the hydraulic components inside the windlass control panel. Plan for a few days so that the vessel's crew can paint the inside of the panel after taking all of the components out of the inside of the panel.

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14. Replace all pressure gauges, isolation valves, needle valves and ball valves on the equipment (windlass and hydraulic unit). Add ball valves to isolate the tank in order to allow for maintenance of the components without emptying all the oil out of the tank.
  15. All parts with NPT threads must be reassembled with the Master Metallic Compound (grey) product.
  16. Carry out performance test on the following components: main pump, auxiliary pump, hydraulic motor, hydraulic brake, operation control. During the performance tests, the flow and pressure must be measured and recorded in the trial report. Verify the proper operating condition of packing seals and ball bearings. If the opening of a component is necessary, it is important to know whether the parts can be delivered within the contract deadlines. The vessel's windlass must be operational when it returns to sea. Provide a report on the trial runs and work on each component.
  17. Ship the electric motor of the hydraulic unit to a specialized firm for a complete overhaul, cleaning, balancing and replacement of the ball bearings (high-quality and sealed), and to have it painted with grey epoxy. Provide a report on the trial runs and work on each motor.
  18. Replace the coupling on the two (2) pumps with new coupling of the same type.
  19. Clean and check the two (2) hydraulic oil heating elements and supply the ground insulation resistance, the resistance of each element and the amperage of the current in each element. Check that the thermostats are functioning properly and replace them as necessary. Adjust them to the manufacturer's specifications.
  20. Check the functioning of the thermostat that prevents the pump from starting up if oil temperature is below 10°C.
  21. Replace all piping and hydraulic hoses on the windlass and hydraulic unit. The piping located in the exterior and in the control panel should be 316 stainless steel. Replace the bulkhead penetration piping (deck) with extra-heavy steel, along with the piping between the windlass and hydraulic unit. If the underdeck insulation has to be removed, every precaution must be taken to ensure that it is not damaged. Replace the insulation when the work is finished.
  22. Conduct a leak test on the welds of the pipes crossing the deck in order to verify that the welds are watertight.
  23. Flush the piping with a cleaning product.
  24. Fill the hydraulic unit and transmission case with new oil provided by the Contractor. The empty barrels and containers must be recovered by the Contractor.
  25. Seal any oil leaks observed during the work.
  26. The manual brakes must be overhauled. The brake bands will have to be replaced by OEM (Original Equipment Manufacturer) bands.
  27. The windlass must be cleaned with a degreaser made by International Company. The rust on the windlass and its components must be mechanically cleaned off down to bare metal. The warping drum shall not be painted. All painting and painting preparation work must be done according to International Company's latest recommendations. Apply the paint as follows:

Two (2) layers: INTERPRIME 198 white colour at 3 mils dry per layer on exposed metal,

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Two (2) layers: INTERLAC 665 chamois colour at 2 mils dry per layer on all surfaces.

28. Apply two layers of Interbond 501 red deck paint on the piping and bare metal components near the deck.
29. Care must be taken to avoid getting paint on the hoses and other components. The Contractor must supply the paint. If the work is done on board the vessel, it must be done with brushes and rollers. Do not spray paint. Before painting, protect the deck and all the components pointed out by the Chief Engineer. Remove this protection when the work is finished.
30. Once the paint has dried and to the satisfaction of the Chief Engineer, all the components must be lubricated with grease (Petro-Canada PXL2C30, Precision XL EP2) supplied by the Contractor.
31. Touch up the paint on the installed bolts and other scratches according to the instructions given in this technical specification.
32. Apply a sealer around the footing where the equipment will be bolted before installing the windlass on the deck. This will prevent humidity from entering, which leads to corrosion.
33. Supply and apply Petro-Tape on all hose connectors.
34. After each day's work, ensure that the area around the windlass is clean and safe.
35. Perform the windlass commissioning and adjustments, and repair all deficiencies.
36. Perform a complete trial run of the windlass in the presence of the CCG representative and Transport Canada stakeholders.



**B2.1:** Notwithstanding definitions or usage elsewhere in this document, or in the Contractor's Cost Management System, when negotiating hours for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.

Elements of Related Labour Costs identified in B2.2 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 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.

### **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. Payment for authorized overtime will be calculated as follows:

For unscheduled work, the Contractor will be paid the authorized overtime hours at the quoted charge-out labour rate plus the following premium rates:

For Time and one half: \$ \_\_\_\_\_ per hour; or,

For Double time \$ \_\_\_\_\_ per hour

The above premiums will be calculated by taking the average hourly direct labour rate premiums, plus certified fringe benefit, plus profit on labour premium and fringe benefits. These rates will remain firm for the duration of the Contract, including all amendments and are subject to audit if considered necessary by Canada.

### **B4 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 water, steam, electricity, etc., required for vessel maintenance for the duration of the Contract.
2. Docking and Undocking include:



(a) all costs resulting from wharfage, security, shoring, shifting and/or moving of the vessel within the successful Bidder's facility;

(b) the cost of services to tie up the vessel alongside and to cast off.

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

3. Field Service Representatives/Supervisory Services: include all costs for field service representatives/supervisory services including manufacturers' representatives, engineers, etc. The Contractor is responsible for the performance of all subcontractors and FSRs.

These services must not be an extra charge except where unscheduled work requiring these services is added to the Contract.

4. Removals: include all costs for removals necessary to carry out the Work and will be the responsibility of the successful Bidder whether or not they are identified in the specifications, 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.

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

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

## **B5 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"****INSURANCE REQUIREMENTS****C.1 Ship Repairers' Liability Insurance**

1. The Contractor must obtain Ship Repairer's Liability Insurance and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$10,000,000 per accident or occurrence and \$20,000,000 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.

**C.2 Commercial General Liability Insurance**

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$10,000,000 per accident or occurrence and \$20,000,000 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.

**ANNEX "D"****WARRANTY****Warranty Procedures****D1. Scope**

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

**D2. 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.

**D3. 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 PWGSC contracting Authority. If the PWGSC Contracting or INSPECTION AUTHORITY is unable to support warranty action, the Defect Claim Form will be returned to the originator with a brief justification. (It is to be noted that in the latter instance PWGSC will inform the Contractor of its decision and no further action will be required of the Contractor.

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

- iii. Assuming the Contractor accepts full responsibility for repair, the Contractor completes Section 2 and 3 of the Warranty Claim Form, returns it to the INSPECTION AUTHORITY who confirms corrective action has been completed, and who then distributes the form to the Technical Authority and the PWGSC Contracting Authority.
- b. In the event that the Contractor disputes the claim as a warranty defect, or agrees to share, the contractor is to complete Part 2 and 3 of the Warranty Claim Form with the appropriate information and forward it to the Contracting Authority who will distribute copies as necessary.

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- c. When a warranty defect claim is disputed by the Contractor, the Technical Authority may arrange to correct the defect by in-house resources or by contracting the work out. All associated costs must be tracked and recorded as a possible charge against the contractor by PWGSC action. Material costs and man-hours expended in correcting the defect are to be recorded and entered in Section 5 of the warranty defect claim by the Technical Authority who will forward the warranty defect claim to the PWGSC Contracting Authority for action. Defective parts of equipment are to be retained pending settlement of claim.
  - d. Defective equipment associated with potential warranty should not normally be dismantled until the Contractor's representative has had the opportunity to observe the defect. The necessary work is to be undertaken through normal repair methods and costs must be segregated as a possible charge against a contractor by PWGSC action.

#### **D4. Liability**

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

#### **D5. 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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CCC No./N° CCC - FMS No/ N° VME



**Public Works and Government  
Services Canada**

**Travaux publics et Services  
gouvernementaux Canada**

## Warranty Claim Réclamation De Garantie

Vessel Name – Nom de navire	File No. – N° de dossier	Contract No. - N ° de contrat				
Customer Department – Ministère client		Warranty Claim Serial No. Numéro de série de réclamation de garantie				
Contractor – Entrepreneur		<b>Effect on Vessel Operations</b> <b>Effet sur des opérations de navire</b>  <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Critical Critique</td> <td style="text-align: center;">Degraded Dégradé</td> <td style="text-align: center;">Operational Opérationnel</td> <td style="text-align: center;">Non-operational Non-opérationnel</td> </tr> </table>	Critical Critique	Degraded Dégradé	Operational Opérationnel	Non-operational Non-opérationnel
Critical Critique	Degraded Dégradé	Operational Opérationnel	Non-operational Non-opérationnel			

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

Contact Information – l'information de contact					
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border-bottom: 1px solid black;">Name – Nom</td> <td style="width: 50%; border-bottom: 1px solid black;">Tel. No. - N ° Tél</td> </tr> </table>	Name – Nom	Tel. No. - N ° Tél	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%; border-bottom: 1px solid black;">Signature – Signature</td> <td style="width: 40%; border-bottom: 1px solid black;">Date</td> </tr> </table>	Signature – Signature	Date
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

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CCC No./N° CCC - FMS No/ N° VME

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

Date of Corrective Action - Date de modalité de reprise

Client Name and Signature - Nom et signature de client

Date

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

Signature – Signature

Date

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**ANNEX "E"****PROCEDURE FOR PROCESSING UNSCHEDULED WORK****E1. 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.

**E2. 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.

**E3. 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.



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- 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.

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**.

- g. 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.
- h. 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.
- i. 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.
- j. In the event the negotiation involves a Credit, the appropriate PWGSC form will be noted as "credit" accordingly.
- k. 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 cancelling the form having the same Serial Number with the suffix "A".

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**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.

**E4. 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 "F"

### QUALITY CONTROL/INSPECTION

#### F1 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.

#### F2 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

### F3 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.

- b. Contractor Imposed Testing:

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

- c. 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.

### F4 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.

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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.

## **F5 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.

## **F6 Inspection and Trials Process**

### **1. Drawings and Purchase Orders**

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.

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- c. Tests, trials and demonstrations must be conducted in accordance with a logical, systematic schedule which must ensure that all associated components and equipment are proven before sub-systems demonstration or testing, and that sub-systems are proven before system demonstration or testing.
  - d. Where the Specifications do not contain specific performance requirements for any component, equipment, sub-system or system, the Contractor must demonstrate such component, equipment, sub-system or system to the satisfaction of the Inspection Authority.
  - e. The Contractor must submit its Inspection and Test Plan as detailed in G2.
  - f. The Contractor must co-ordinate each test, trial and demonstration with all interested parties, including the Inspection Authority; Contracting and Technical Authorities; regulatory authorities; Classification Society; Sub-contractors; etc. **The Contractor must provide the Inspection Authority and other Crown Authorities with a minimum of five (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. The Contractor may utilize the **PWGSC STANDARD TESTS & TRIALS RECORD SHEETS** which can be customized by the Contractor to suit individual test or trial requirements. These Record Sheets are available from the Inspection Authority in digital format.
  - 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 "G"****Financial Bid Presentation Sheet****G1 Price for Evaluation**

<b>A)</b>	<b>Known Work</b> For work as stated in Part 1 Clause 1.2, Specified in Annex "A" and detailed in the attached Pricing Data Sheets Appendix 1 of Annex "G", for a FIRM PRICE of:	\$ _____
<b>B)</b>	<p>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 G2.1 and G2.2 below.</p> <p>Overtime premium for time and one half: Estimated hours for evaluation purposes only: 10 person hours X \$ _____ per hour for a PRICE of: See Article G3 Below.</p> <p>Overtime premium for double time: Estimated hours for evaluation purposes only: 10 person hours X \$ _____ per hour for a PRICE of: See Article G3 below.</p>	<p>\$ _____</p> <p>\$ _____</p> <p>\$ _____</p>
<b>C)</b>	<p>EVALUATION PRICE (Applicable Taxes Excluded),</p> <p>[A + B ]</p> <p>For an EVALUATION PRICE of (Applicable Taxes Excluded):</p>	\$ _____

**G2 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, of the total cost of material and labour. The firm hourly charge-out labour rate and the material mark-up will remain firm for the duration of the Contract and any subsequent amendments."

**G2.1:** 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 G2.2 below, will not be negotiated, but will be compensated for in accordance with Note G2.2. It is therefore incumbent upon the bidder to have bid appropriately which will result in fair compensation, regardless of their Cost Management System.



**G2.2:** 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 G2 above.

**G2.3:** 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.

### **G3 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. Payment for authorized overtime will be calculated as follows:

For unscheduled work, the Contractor will be paid the authorized overtime hours at the quoted charge-out labour rate plus the following premium rates:

For Time and one half: \$ \_\_\_\_\_ per hour; or,

For Double time \$ \_\_\_\_\_ per hour

The above premiums will be calculated by taking the average hourly direct labour rate premiums, plus certified fringe benefit, plus profit on labour premium and fringe benefits. These rates will remain firm for the duration of the Contract, including all amendments and are subject to audit if considered necessary by Canada.

### **G4 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 water, steam, electricity, etc., required for vessel maintenance for the duration of the Contract.
2. Berthing include:
  - (a) all costs resulting from , wharfage, security, shoring, shifting and/or moving of the vessel within the successful Bidder's facility;
  - (b) the cost of services to tie up the vessel alongside and to cast off.

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

3. Field Service Representatives/Supervisory Services: include all costs for field service representatives/supervisory services including manufacturers' representatives, engineers, etc.

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005ml

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

F3019-13INR056

File No. - N° du dossier

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These services must not be an extra charge except where unscheduled work requiring these services is added to the Contract.

4. Removals: include all costs for removals necessary to carry out the Work and will be the responsibility of the successful Bidder whether or not they are identified in the specifications, 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.
5. Sheltering, Staging, Cranage and Transportation: include the cost of all sheltering, staging including handrails, cranage and transportation to carry out the Work as specified.

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

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CCC No./N° CCC - FMS No/ N° VME

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**ANNEX "G" - APPENDIX 1**

**PRICING DATA SHEET**

<b>Spec. #</b>	<b>Description</b>	<b>Total Hours</b>	<b>Total Labour Cost</b>	<b>Total Material Cost</b>	<b>Total FSR&amp; Sub- Contractors Cost</b>	<b>Total Firm Price</b>
Item 01	Windlass		\$	\$	\$	\$
	Total		\$	\$	\$	\$

**ANNEX H****DELIVERABLES/CERTIFICATIONS****H1 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 "H1" 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	Completed Annex "G" Financial Bid Presentation Sheet, clauses G1 through G4;	
3	Completed Pricing Data Sheets, per clause 3.1 Section II, Annex "G", Appendix 1;	
4	Completed Annex "H1" Deliverables/Certifications;	
5	Changes to Applicable Laws (if any), as per clause 2.4	
6	Submission of Code of Conduct - List of Directors as per, section 5.1.1 and attached as Annex "I";	
7	Proof of good standing with Worker's Compensation Board, as per clause 6.1	
8	Proof of valid Labor Agreement or similar instrument covering the work period, as per clause 6.2	
9	Preliminary Work Schedule , per clause 6.3;	
10	If Registered its Valid ISO 9001-2008 Certification, as per clause 6.4	
11	Objective evidence of documented Health and Safety System, as per clause 6.5;	
12	Insurance Requirements, as per clause 6.7	
13	Proof of welding certification, as per clause 6.8	
14	List of subcontractors, as per clause 6.9	
15	Example of its Quality Control Plan, as per clause 6.10	
16	Example of an Inspection and Test Plan as per clause 6.11	
17	Details of Environmental Emergency Response Plan, Details of Formal Environmental Training as per Clause 6.12	
18	Contractor Contacts, as per clause 7.5.4	

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## H2

### Deliverables after Contract Award

Item	Description	Reference	Due By
1	Insurance requirements as per Annex "C"	Clause 7.12 and Annex "C"	10 Working Days after contract award
2	Revised Work Schedule	Clause 7.15	5 calendar days after contract award
3	The Contractor's Quality Control Plan	Clause 7.19	5 calendar days after contract award

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

File No. - N° du dossier

CCC No./N° CCC - FMS No/ N° VME

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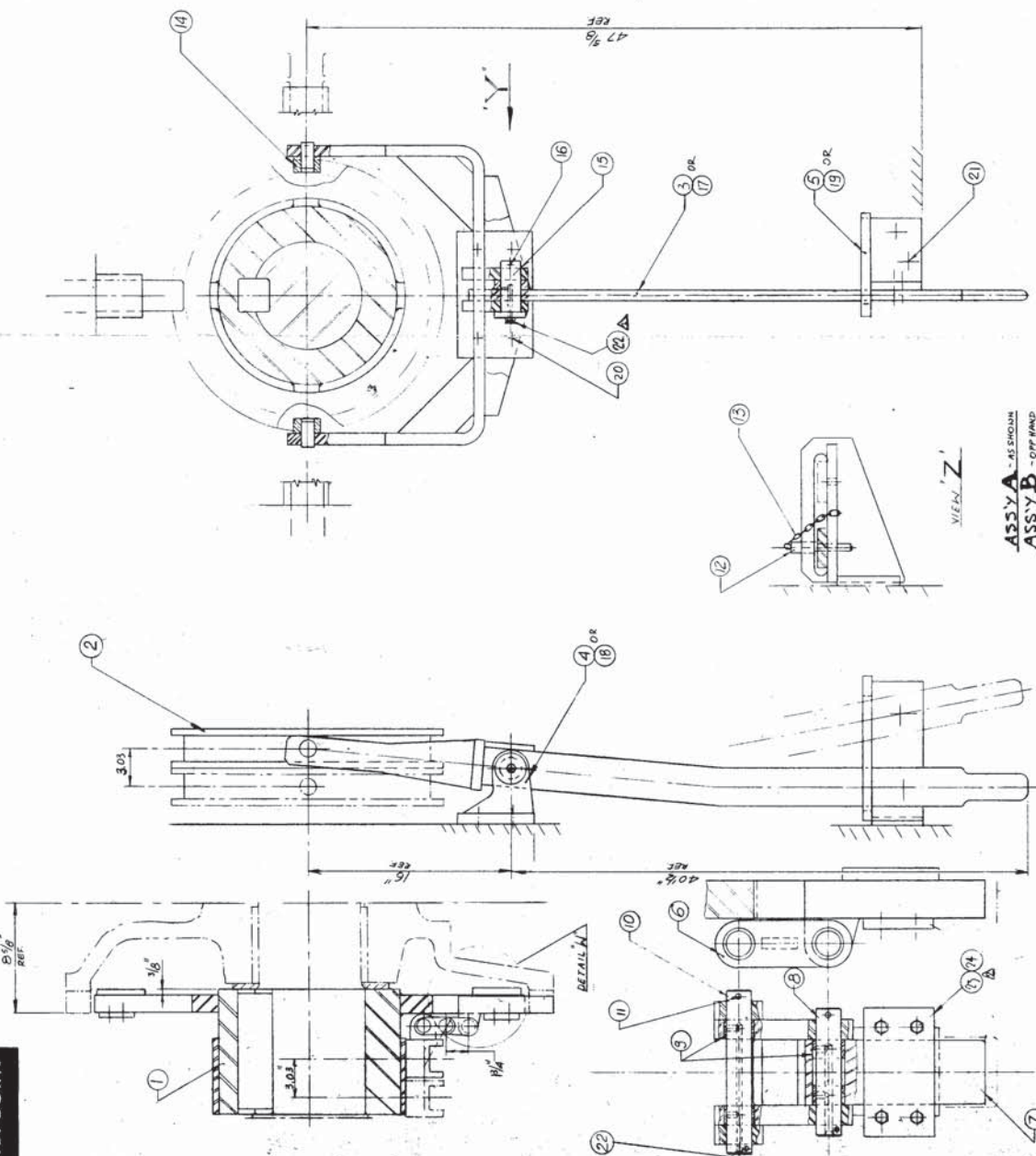
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## ANNEX I

### Code of Conduct - List of Directors

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
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9. \_\_\_\_\_
10. \_\_\_\_\_





16	24	1/2" DIA. 1/2" L	4030-4M	1432-4M		
4	23	PLATE	ALUMINUM CLAMP PLATE 1/4" THICK			
9	22	ALUMINUM CLAMP PLATE 1/4" THICK				
2	21	1/2" DIA. 1/2" L	4030-4M	1432-4M		
4	20	1/2" DIA. 1/2" L	4030-4M	1432-4M		
1	19	BRACKET		4030-4M		
1	18	MOUNTING BRACKET		4030-4M		
1	17	CLUTCH LEVER		4030-4M		
1	16	1/4" DIA. 1/2" L	4030-4M	1432-4M		
1	15	1/2" DIA. 1/2" L	4030-4M	1432-4M		
2	14	SO. BUSHING		4030-4M		
1	13	1/2" DIA. 1/2" L	4030-4M	1432-4M		
1	12	1/2" DIA. 1/2" L	4030-4M	1432-4M		
1	11	1/2" DIA. 1/2" L	4030-4M	1432-4M		
4	10	SHAFT		4030-4M		
1	9	1/2" DIA. 1/2" L	4030-4M	1432-4M		
4	8	SHAFT		4030-4M		
4	7	ENGAGEMENT TIGHT		4030-4M		
4	6	LINK		4030-4M		
4	5	BRACKET		4030-4M		
1	4	MOUNTING BRACKET		4030-4M		
1	3	CLUTCH LEVER		4030-4M		
1	2	SLIDING NUT		4030-4M		
1	1	ENGAGEMENT NUT		4030-4M		
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Fig. 3.4

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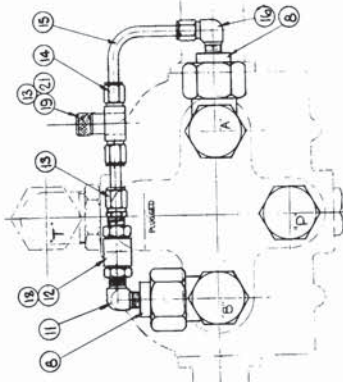


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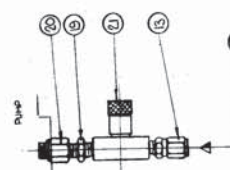
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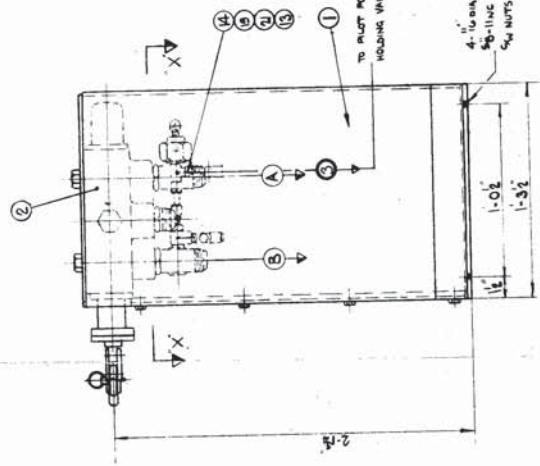
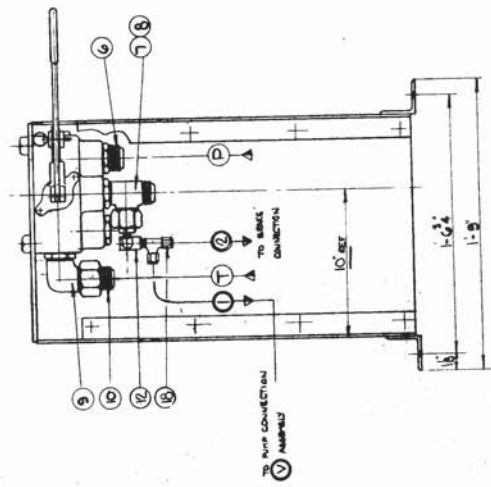
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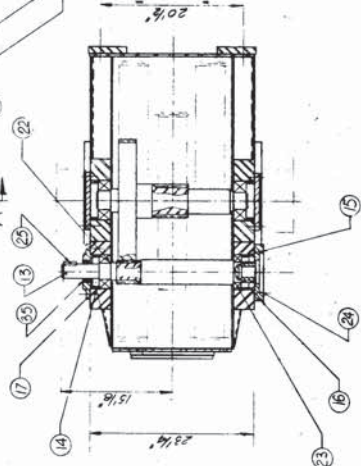
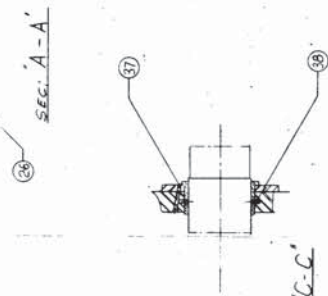
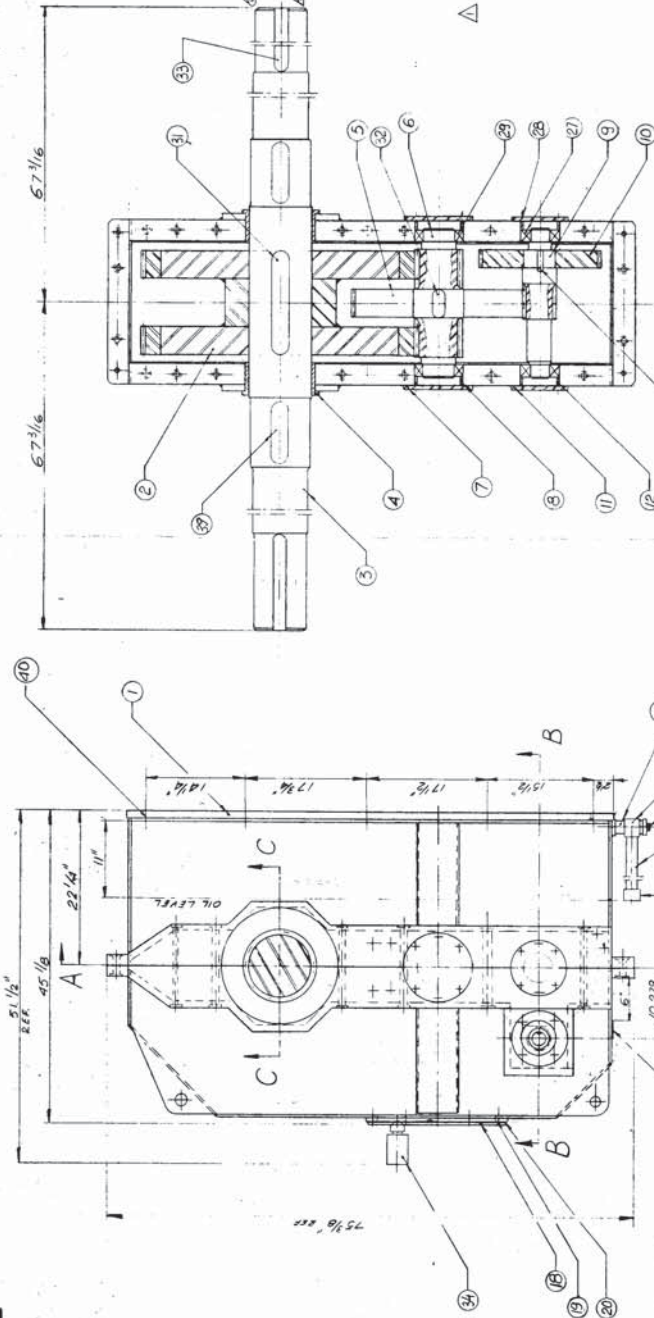
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CONNECTIONS  
 1) A.B.P.T. - 3/4\"/>

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 45981 - O - A0  
 45993 - O - A2  
 46174 - O - A2

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PART NO. 45992-0-A1	REV. 1	DATE 10/1/54	DRAWN BY J.T.H.
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DO NOT SCALE - IF IN DOUBT ASK THE FABRICATOR - IF IN DOUBT ASK THE FABRICATOR - IF IN DOUBT ASK			
THE DESIGN IS THE PROPERTY OF JOHN T. HEPBURN LIMITED NO PART OF THIS DESIGN IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF JOHN T. HEPBURN LIMITED			



QTY	ITEM NO	ITEM DESCRIPTION	UNIT	PRICE	TOTAL
43	1	1/4" STD. HEX. NUT	EA	0.05	2.15
42	2	1/4" STD. HEX. NUT	EA	0.05	2.10
41	3	1/4" STD. HEX. NUT	EA	0.05	2.05
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14	30	1/4" STD. HEX. NUT	EA	0.05	0.70
13	31	1/4" STD. HEX. NUT	EA	0.05	0.65
12	32	1/4" STD. HEX. NUT	EA	0.05	0.60
11	33	1/4" STD. HEX. NUT	EA	0.05	0.55
10	34	1/4" STD. HEX. NUT	EA	0.05	0.50
9	35	1/4" STD. HEX. NUT	EA	0.05	0.45
8	36	1/4" STD. HEX. NUT	EA	0.05	0.40
7	37	1/4" STD. HEX. NUT	EA	0.05	0.35
6	38	1/4" STD. HEX. NUT	EA	0.05	0.30
5	39	1/4" STD. HEX. NUT	EA	0.05	0.25
4	40	1/4" STD. HEX. NUT	EA	0.05	0.20
3	41	1/4" STD. HEX. NUT	EA	0.05	0.15
2	42	1/4" STD. HEX. NUT	EA	0.05	0.10
1	43	1/4" STD. HEX. NUT	EA	0.05	0.05

QTY 43

ITEM NO 1

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 2.15

QTY 42

ITEM NO 2

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 2.10

QTY 41

ITEM NO 3

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 2.05

QTY 40

ITEM NO 4

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 2.00

QTY 39

ITEM NO 5

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 1.95

QTY 38

ITEM NO 6

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 1.90

QTY 37

ITEM NO 7

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 1.85

QTY 36

ITEM NO 8

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 1.80

QTY 35

ITEM NO 9

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 1.75

QTY 34

ITEM NO 10

ITEM DESCRIPTION 1/4" STD. HEX. NUT

UNIT EA

PRICE 0.05

TOTAL 1.70

QTY 33

ITEM NO 11</





SECTION 2

INSTRUCTION MANUAL

FOR

ANCHOR WINDLASS

ON

CCGS PIERRE RADISSON

HULL NO. 221

BURRARD DRY DOCK COMPANY LIMITED

PURCHASE ORDER NO. 221-190-19

JOHN T. HEPBURN, LIMITED SALES ORDER

ANCHOR WINDLASS

75-M-0527

JOHN T. HEPBURN, LIMITED

914 DUPONT STREET

TORONTO

ONTARIO M6H 1Z2

SERIAL NUMBER

C-1083

Please make reference to the above numbers in all correspondence and when ordering spare parts.

Operating Instruction 0.1.526



CCGS PIERRE RADISSONANCHOR WINDLASSI N D E X

2.0	LIST OF REFERENCE DRAWINGS (FIGURES)
2.1	RATING OF ANCHOR WINDLASS
2.2	DESCRIPTION
2.3	HYDRAULIC SYSTEM AND CONTROLS
2.4	ELECTRICAL CONTROLS
2.5	OPERATING INSTRUCTIONS
2.6	INSTALLATION INSTRUCTIONS & START-UP PROCEDURE
2.7	MAINTENANCE INSTRUCTIONS
2.8	LIST OF SPARE PARTS SUPPLIED

0.1.526 (Section 2)

CCGS PIERRE RADISSONANCHOR WINDLASSSECTION 2.0LIST OF REFERENCE DRAWINGS (FIGURES)

FIGURE	DRAWING	REVISION	DRAWING TITLE
<u>NO</u>	<u>NO</u>	<u>NO</u>	
2-1	45241-0-A1	5	ANCHOR WINDLASS FOR 2" STUD LINK CABLE
2-2	45234-0-A1	2	GEAR BOX ASSEMBLY
2-3	MM-7222-2-E	2	ARRANGEMENT OF HYDRAULIC BRAKE
2-4	45229-0-A1	3	CLUTCH ASSEMBLY
2-5	45225-0-A1	2	HAND BRAKE ASSEMBLY
2-6	45998-0-A2	1	WINDLASS HYDRAULIC SCHEMATIC
2-7	46174-0-A2	0	HYDRAULIC PIPING LAYOUT
2-8	45981-0-A0	3	HYDRAULIC POWER UNIT
2-9	45992-0-A1	4	WINDLASS CONTROL CONSOLE
2-10	44899-0-A1	0	FATHOM INDICATOR ARRANGEMENT
2-11	60049-0-A1	0	ANCHOR WINDLASS CONTROL CONSOLE OUTLINE DIMENSIONS
2-12	60021-A2 SHEET 1 of 2	1	ELECTRICAL SCHEMATIC DIAGRAM
2-13	60021-A2 SHEET 2 of 2	1	ELECTRICAL CONNECTION WIRING DIAGRAM

0.1.526 (Section 2)

CCGS PIERRE RADISSONANCHOR WINDLASSSECTION 2.1RATING

SIZE OF STUD LINK CHAIN CABLE	2"
NUMBER OF WILDCATS	TWO (2)
DIAMETER OF WARPING DRUMS	24"
NUMBER OF WARPING DRUMS	TWO (2)
RATED PULL AT EACH WILDCAT	50,000 LB
RATED PULL 2 WILDCATS COMBINED	52,800 LB
RATED SPEED OF WILDCAT	45 F.P.M.
STALL PULL 2 WILDCATS COMBINED	68,000 LB
AUTOMATIC BRAKE HOLDING CAPACITY TWO WILDCATS COMBINED	58,600 LB
MANUAL BRAKE HOLDING CAPACITY AT EACH WILDCAT	45,322 LB
RATED PULL AT WARPING DRUM	13,000 LB
RATED SPEED AT WARPING DRUM	48 F.P.M.
STALL PULL AT WARPING DRUM	67,000 LB

0.1.526 (Section 2)

CCGS PIERRE RADISSONANCHOR WINDLASSSECTION 2.2DESCRIPTION

- 2.2.1 The HEPBURN anchor windlass is of robust construction with all components mounted on a structural steel base.
- 2.2.2 Power to the windlass is provided by a remote mounted hydraulic power unit driven by a 100 HP electric motor. A detailed description of the hydraulic circuit is given in Section 2.3
- 2.2.3 The electric motor starter is remote mounted and supplied by others.
- 2.2.4 The windlass gearbox is driven by a hydraulic piston motor flange mounted to the gearbox. An automatic brake, Figure 2-3, is mounted on input pinion shaft, opposite the hydraulic motor.
- 2.2.5 The double output shaft of the gearbox supports two (2) cast steel, 5-whelp wildcats and two (2) 24" diameter warping heads.
- 2.2.6 All gears and pinions in the gearbox rotate in anti-friction bearings, except the final reduction double output shaft, which rotates in high quality bronze bearings. All gearing is oil bath lubricated.

0.1.526 (Section 2)



- 2.2.7 Two (2) jaw clutch assemblies, Figure 2-4, provide for independent operation of the wildcats.
- 2.2.8 A manually operated band brake, Figure 2-5, is provided for each wildcat.
- 2.2.9 The remote mounted hydraulic power unit is illustrated in Figure 2-8.
- 2.2.10 The windlass control console is illustrated in Figure 2-9 and 2-11.
- 2.2.11 A fathom indicator arrangement is incorporated in the windlass and is illustrated in Figure 2-10. The fathom counters are incorporated in the control console.

0.1.526 (Section 2)

CCGS PIERRE RADISSONANCHOR WINDLASSSECTION 2.3HYDRAULIC SYSTEM AND CONTROLS

- 2.3.1 The hydraulic system and itemized components are detailed in the following:-

Figure 2-6 - Hydraulic Schematic  
 Figure 2-7 - Hydraulic Piping Layout  
 Figure 2-8 - Hydraulic Power Unit

- 2.3.2 The hydraulic system is an open loop arrangement, utilizing a pressure compensated main pump, Figure 2-6, Item 4, a super-charging pump, Figure 2-6, Item 2 and a manual control valve, Figure 2-6, Item 5 to control the speed and direction of the hydraulic motor rotation Figure 2-6, Item 8.

- 2.3.3 A holding valve, Figure 2-6, Item 7, is provided to partially support the load whilst paying out the anchor.

- 2.3.4 An automatic brake, Figure 2-6, Item 9 will hold the anchor and chain whenever the control valve is placed in the neutral position or released. *CIL PRESSURE TO RELEASE THE BRAKE 200 PSI (14.3 BAR)*

- 2.3.5 To minimize the heat generated in the hydraulic system when working on partial load and less than the maximum windlass speed, flow from the pump compensator vent port is directed through a needle valve, Figure 2-6, Item 11 and the shuttle valve, Figure 2-6, Item 6 to the motor high pressure port, so that the pressure compensator has a variable setting in accordance with the load requirements.

CCGS PIERRE RADISSONANCHOR WINDLASSSECTION 2.4ELECTRICAL CONTROLS

- 2.4.1 The hydraulic pump is driven by a 100 HP squirrel cage motor, power to which is turned on and off by a reduced voltage starter, supplied by the shipyard.
- 2.4.2 An AC ammeter, located in the control console, is incorporated in the motor circuit to sense the current drawn by the motor.
- 2.4.3 When the pump motor is switched on, a light on the control console is illuminated, indicating that power is ON.
- 2.4.4 The hydraulic fluid reservoir heating controls are fed from the 440-volt ships power supply.
- 2.4.5 A further 115-volt supply is fed to the operator's control console to provide power to the indicating instruments.
- 2.4.6 The hydraulic fluid reservoir heaters are thermostatically controlled.
- 2.4.7 The heaters in the operator's console are controlled by a solid state controller using a thermistor. The operating temperature can be adjusted by means of the associated potentiometer.
- 2.4.8 The numbers displayed in the fathom counters are in fathoms and the displayed value is 11% less than the actual number paid out.

Should the counter register negative numbers whilst paying out the anchor, the two (2) wires 62P and 66P to the "DIRECTIONAL" proximity switch should be interchanged or alternatively, switch the reversing toggle switch at the back of the counter.

NOTE: This procedure should be necessary only during the initial set-up of the equipment.

2.4.9 The length of chain paid out is detected by proximity switches Figure 2-10, Items 3 and 5, which transmit the "COUNT" and "DIRECTION" signals to the counters.

2.4.10 All electrical components of the anchor windlass are described on the following pages of Unit Parts Lists 8813-A-2.

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CCGS PIERRE RADISSONANCHOR WINDLASSSECTION 2.5OPERATING INSTRUCTIONS

- 2.5.1 Start the electric motor and allow it to run for 5 minutes.

NOTE: The motor will not start if the hydraulic oil temperature is 10° C or less.

- 2.5.2 The rotation of the wildcats is controlled by the valve located on the control console.

- 2.5.3 Engage the appropriate cable lifter clutch, Figure 2-1, Item 11 and release the cable lifter manual brake, Figure 2-1, Item 12.

- 2.5.4 At the control console, remove the control lever locking pin, Figure 2-9, Item 5 and operate the windlass by pushing the lever away from the operator for PAY-OUT and pulling the lever towards the operator for HAUL-IN.

- 2.5.5 For operation of the warping head only, apply the manual brake, Figure 2-1, Item 12 and dis-engage the clutch, Figure 2-1, Item 11.

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CGGS PIERRE RADISSONANCHOR WINDLASSSECTION 2.6INSTALLATION INSTRUCTIONS AND START-UP PROCEDURES

- 2.6.1 The windlass is to be installed in the appropriate location on re-inforced seatings to the approval of the Classification Society.
- 2.6.2 The seating is to be prepared in one plane to ensure that when the windlass is placed on the seating, all the mounting pads make contact with the seating.
- Any discrepancy between mounting pad and seating is to be made up by using steel shims.
- Sixteen (16) 1" diameter bolts and four (4) shear blocks are used to secure the windlass in position. Bolt and shear block details are shown on Figure 2-1.
- 2.6.3 Install the hydraulic power unit, Figure 2-8, following the procedure described in para. 2.6.2.
- 2.6.4 Complete interconnecting electrical wiring between main power source, hydraulic power unit, control console and anchor windlass, in accordance with Figures 2-12 and 2-13.
- 2.6.5 Complete interconnecting hydraulic piping between the hydraulic power unit, control console and anchor windlass.
- 2.6.6 Fill the hydraulic power unit reservoir, Figure 2-8, Item 24, with the specified grade of hydraulic fluid, to the level indicated on the level gauge, Figure 2-8, Item 29.

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- 2.6.7 Check the rotation of the electric motor, Figure 2-8, Item 13, as indicated on the main pump casing, Figure 2-8, Item 77.
- 2.6.8 Fill the gearbox, Figure 2-1, Item 2 to the level indicated on Figure 2-2, with the specified grade of oil.
- 1.6.9 Lubricate all points on the windlass and Hydraulic power unit as described in Section 2.7.
- 2.6.10 Apply the two (2) cable lifter manual brakes, Figure 2-1, Item 12.
- 2.6.11 Dis-engage the two (2) cable lifter clutches, Figure 2-1, Item 11.
- 2.6.12 Start the electric motor and allow to run for 15 minutes to permit circulation of the hydraulic fluid.
- 2.6.13 Tie back the control lever, Figure 2-9, in the HAUL-IN mode, at maximum speed, and run the windlass for 30 minutes.
- 2.6.14 On completion of 2.6.13, release the control lever and insert the lever locking pin with the lever in NEUTRAL position.
- 2.6.15 Stop the electric motor.
- 2.6.16 Change the element in the filter, Figure 2-8, Item 42.

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2.6.17 TO PREPARE THE WINDLASS FOR LOAD TEST:

- 2.6.17.1 Start the electric motor.
- 2.6.17.2 Engage the desired cable lifter clutch, Figure 2-1, Item 11.
- 2.6.17.3 Release the manual brake, Figure 2-1, Item 12 of the appropriate cable lifter.

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CCGS PIERRE RADISSONANCHOR WINDLASSSECTION 2.7MAINTENANCE INSTRUCTIONS2.7.0 LUBRICATION2.7.1 TWICE WEEKLY

2.7.1.1 Apply grease by hand gun to the following locations:-

<u>ASSEMBLY</u>	<u>FIGURE NO.</u>	<u>No. of LOCATIONS</u>
Cable Lifter Bearings	2-1	2
Warping Head Bearings	2-1	2
Automatic Brake	2-3	1
Manual Brake	2-5	6
Clutch Assembly	2-4	16

2.7.1.2 Apply grease by brush to the following locations:-

The threaded length of the manual brake control rod, Figure 2-5,  
Item 4.

Each side of the clutch collar, Figure 2-4, Item 2.

The groove on the outside of the clutch collar to lubricate  
the operating fork bushings.

2.7.2 EVERY TWO WEEKS

2.7.2.1 Check the level of oil in the windlass gearbox, Figure 2-1,  
Item 2 and replenish with the specified grade of oil, as required.

2.7.3 SIX MONTHS

2.7.3.1 Replace filter elements in the hydraulic power unit, Figure 2-8, Item 42.

2.7.3.2 Check the level of the hydraulic fluid in the reservoir, Figure 2-8, Item 24 and replenish with the specified hydraulic fluid, as required.

2.7.4 Instructions for the repair of hydraulic components are found in the respective manufacturers repair and maintenance manuals in Section 8 of this manual.

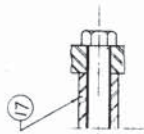
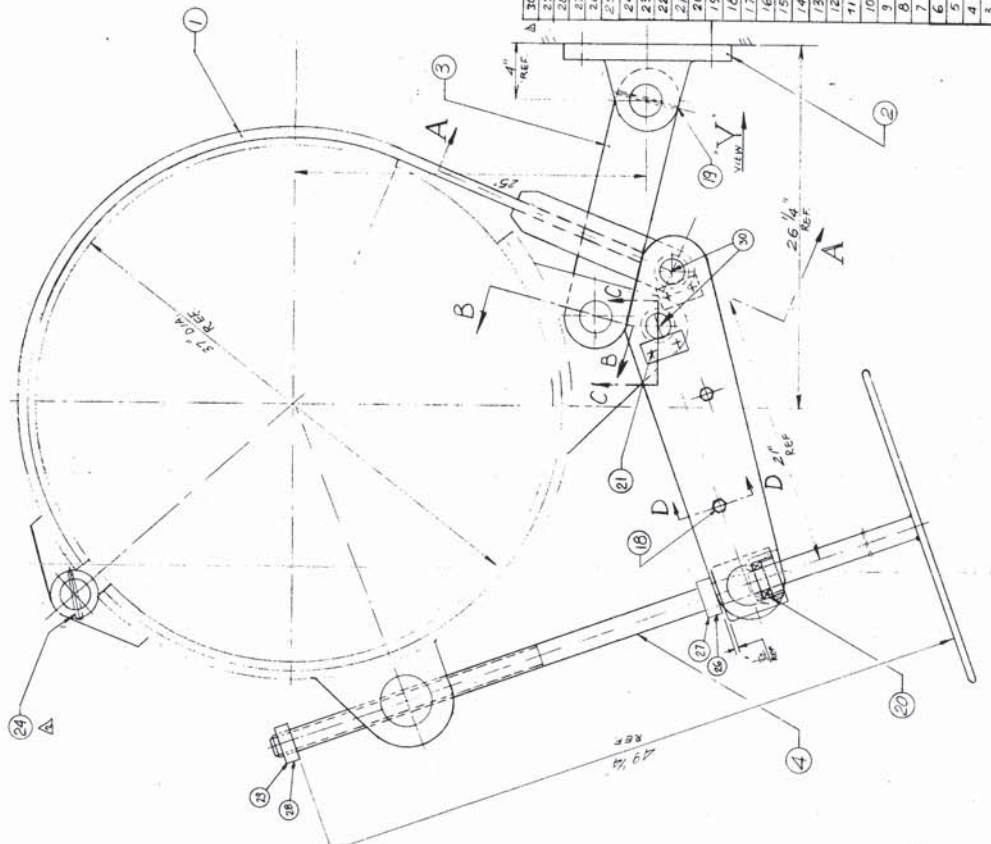
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CCGS PIERRE RADISSONANCHOR WINDLASSSECTION 2.8MECHANICAL AND ELECTRICAL SPARES

<u>QUANTITY</u>	<u>HEPBURN</u> <u>PART NO</u>	<u>MANUFACTURERS</u> <u>PART NO</u>	<u>DESCRIPTION</u>
<u>MECHANICAL</u>			
12	5-122-H	MM7225-2-D/4	BRAKE PADS
36	5-124-G	MM7225-2-D/29	BRASS MACHINE SCREWS 12-24 NC x 12"
2	5-126-M	45226-0-A1/3	BRAKE LINING 5-1/2" w x 1/2" thk x 4'-6" lg
2	5-128-M	45226-0-A1/4	BRAKE LINING 5-1/2" w x 1/2" thk x 4'-6" lg
188	5-132-G	45226-0-A1/5	FLAT HEAD SCREWS COMPLETE WITH STEEL NUT 1/4-20 x 1-1/2"
2	5-130-G	J10	ELEMENT FOR FILTER #RLF-12-080-10
<u>ELECTRICAL</u>			
	5-134-G	100 HP ELECTRIC MOTOR REPAIR KIT CONSISTING OF:	
1	-	31552-46	FRONT BEARING
1	-	31552-46	REAR BEARING
1	-	99-2991-76	SLOT INSULATION
1	-	99-2992-76	PHASE INSULATION
1	-	99-2993-76	STATOR COIL

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SEC: D-D'

30	31	ALUMITE CEMENT SETTINGS - 9 A - 18A (DOWNS RD.)	FILE	CUT
23	1	NUT	44222-0-4 1/2	
25	1	WASHER	44227-0-1 1/2	
26	1	PLATE	44237-0-4 1/2	
27	1	WASHER	44237-0-4 1/2	
28	1	LINK #2	44238-0-4 1/2	
29	1	W P TAPER PIN 3/64	44238-0-4 1/2	
30	1	W P TAPER PIN 3/64	44238-0-4 1/2	
31	1	W P TAPER PIN 3/64	44238-0-4 1/2	
32	1	W P TAPER PIN 3/64	44238-0-4 1/2	
33	1	W P TAPER PIN 3/64	44238-0-4 1/2	
34	1	W P TAPER PIN 3/64	44238-0-4 1/2	
35	1	W P TAPER PIN 3/64	44238-0-4 1/2	
36	1	W P TAPER PIN 3/64	44238-0-4 1/2	
37	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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39	1	W P TAPER PIN 3/64	44238-0-4 1/2	
40	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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46	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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48	1	W P TAPER PIN 3/64	44238-0-4 1/2	
49	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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54	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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56	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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60	1	W P TAPER PIN 3/64	44238-0-4 1/2	
61	1	W P TAPER PIN 3/64	44238-0-4 1/2	
62	1	W P TAPER PIN 3/64	44238-0-4 1/2	
63	1	W P TAPER PIN 3/64	44238-0-4 1/2	
64	1	W P TAPER PIN 3/64	44238-0-4 1/2	
65	1	W P TAPER PIN 3/64	44238-0-4 1/2	
66	1	W P TAPER PIN 3/64	44238-0-4 1/2	
67	1	W P TAPER PIN 3/64	44238-0-4 1/2	
68	1	W P TAPER PIN 3/64	44238-0-4 1/2	
69	1	W P TAPER PIN 3/64	44238-0-4 1/2	
70	1	W P TAPER PIN 3/64	44238-0-4 1/2	
71	1	W P TAPER PIN 3/64	44238-0-4 1/2	
72	1	W P TAPER PIN 3/64	44238-0-4 1/2	
73	1	W P TAPER PIN 3/64	44238-0-4 1/2	
74	1	W P TAPER PIN 3/64	44238-0-4 1/2	
75	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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77	1	W P TAPER PIN 3/64	44238-0-4 1/2	
78	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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133	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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137	1	W P TAPER PIN 3/64	44238-0-4 1/2	
138	1	W P TAPER PIN 3/64	44238-0-4 1/2	
139	1	W P TAPER PIN 3/64	44238-0-4 1/2	
140	1	W P TAPER PIN 3/64	44238-0-4 1/2	
141	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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144	1	W P TAPER PIN 3/64	44238-0-4 1/2	
145	1	W P TAPER PIN 3/64	44238-0-4 1/2	
146	1	W P TAPER PIN 3/64	44238-0-4 1/2	
147	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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152	1	W P TAPER PIN 3/64	44238-0-4 1/2	
153	1	W P TAPER PIN 3/64	44238-0-4 1/2	
154	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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163	1	W P TAPER PIN 3/64	44238-0-4 1/2	
164	1	W P TAPER PIN 3/64	44238-0-4 1/2	
165	1	W P TAPER PIN 3/64	44238-0-4 1/2	
166	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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173	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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175	1	W P TAPER PIN 3/64	44238-0-4 1/2	
176	1	W P TAPER PIN 3/64	44238-0-4 1/2	
177	1	W P TAPER PIN 3/64	44238-0-4 1/2	
178	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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194	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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197	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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199	1	W P TAPER PIN 3/64	44238-0-4 1/2	
200	1	W P TAPER PIN 3/64	44238-0-4 1/2	
201	1	W P TAPER PIN 3/64	44238-0-4 1/2	
202	1	W P TAPER PIN 3/64	44238-0-4 1/2	
203	1	W P TAPER PIN 3/64	44238-0-4 1/2	
204	1	W P TAPER PIN 3/64	44238-0-4 1/2	
205	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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207	1	W P TAPER PIN 3/64	44238-0-4 1/2	
208	1	W P TAPER PIN 3/64	44238-0-4 1/2	
209	1	W P TAPER PIN 3/64	44238-0-4 1/2	
210	1	W P TAPER PIN 3/64	44238-0-4 1/2	
211	1	W P TAPER PIN 3/64	44238-0-4 1/2	
212	1	W P TAPER PIN 3/64	44238-0-4 1/2	
213	1	W P TAPER PIN 3/64	44238-0-4 1/2	
214	1	W P TAPER PIN 3/64	44238-0-4 1/2	
215	1	W P TAPER PIN 3/64	44238-0-4 1/2	
216	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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221	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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223	1	W P TAPER PIN 3/64	44238-0-4 1/2	
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227	1	W P TAPER PIN 3/64	44238-0-4 1/2	
228	1	W P TAPER PIN 3/64	44238-0-4 1/2	
229	1	W P TAPER PIN 3/64	44238-0-4 1/2	
230	1	W P TAPER PIN 3/64	44238-0-4 1/2	
231	1	W P TAPER PIN 3/64	44238-0-4 1/2	
232	1	W P TAPER PIN 3/64	44238-0-4 1/2	
233	1	W P TAPER PIN 3/64	44238-0-4 1/2	
234	1	W P TAPER PIN 3/64	44238-0-4 1/2	
235	1	W P TAPER PIN 3/64	44238-0-4 1/2	
236	1	W P TAPER PIN 3/64	44238-0-4 1/2	
237	1	W P TAPER PIN 3/64	44238-0-4 1/2	
238	1	W P TAPER PIN 3/64	44238-0-4 1/2	
239	1	W P TAPER PIN 3/64	44238-0-4 1/2	
240	1	W P TAPER PIN 3/64	44238-0-4 1/2	
241	1	W P TAPER PIN 3/64	44238-0-4 1/2	
242	1	W P TAPER PIN 3/64	44238-0-4 1/2	
243	1	W P TAPER PIN 3/64	44238-0-4 1/2	
244	1	W P TAPER PIN 3/64	44238-0-4 1/2	
245	1	W P TAPER PIN 3/64	44238-0-4 1/2	
246	1	W P TAPER PIN 3/64	44238-0-4 1/2	
247	1	W P TAPER PIN 3/64	44238-0-4 1/2	
248	1	W P TAPER PIN 3/64	44238-0-4 1/2	
249	1	W P TAPER PIN 3/64	44238-0-4 1/2	
250				

**HEPBURN**

**JOHN T. HEPBURN, LIMITED**

914 DUPONT STREET, TORONTO, CANADA

INORGANICAL DIVISION

TRACT NO. 75-M-0527

CHARGE #

ASS FOR 2" STUO CAB

- ASS'Y

100

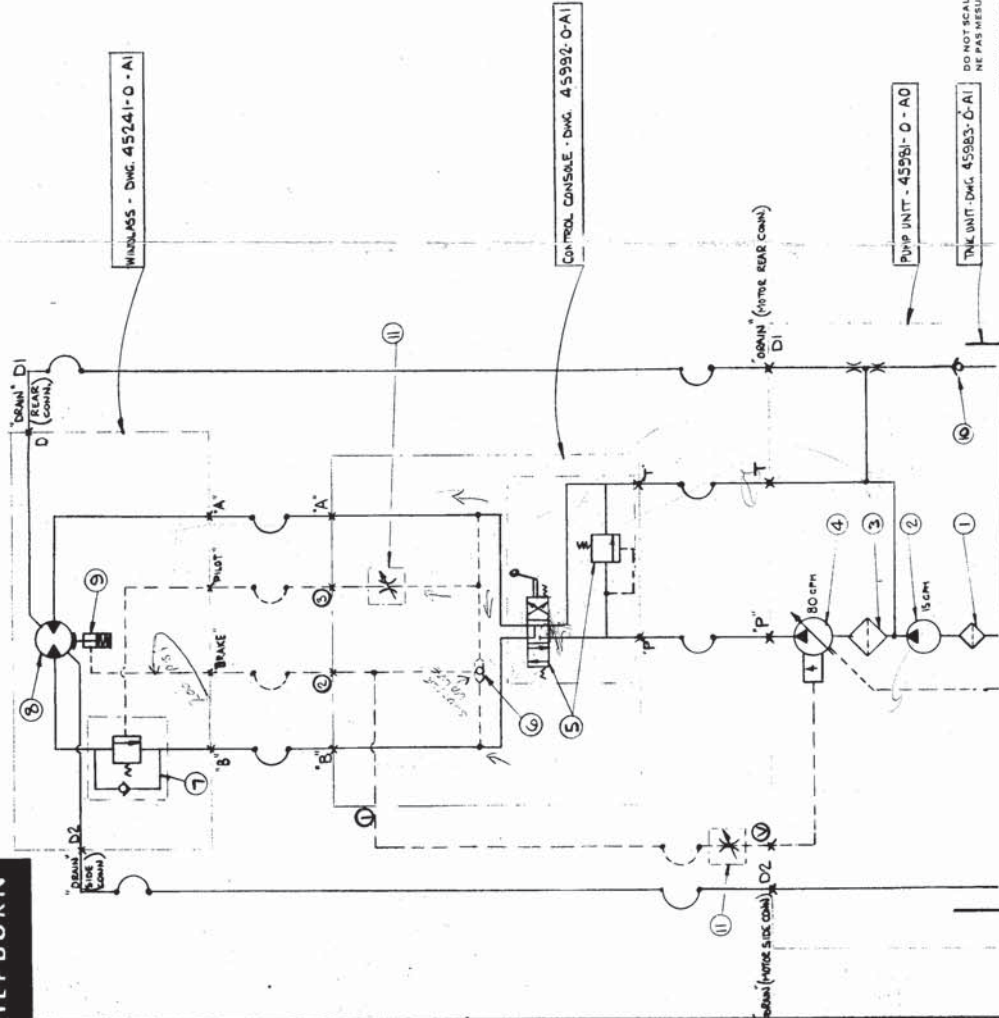
45225-0 -A1

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LOG

HEPBURN

45998 - 0 - A2



DO NOT SCALE - IF IN DOUBT ASK  
NE PAS MESURER - SI EN DOUBTE DEMANDER

ALL DIMENSIONS IN INCHES  
TOUTES DIMENSIONS EN POUCES  
ALLOWABLE VARIATION OF CONTROLLING FINISHED SURFACES: ± .010 UNLESS OTHERWISE SPECIFIED  
VARIATION PERMISEE SUR FINISSEMENT DE CONTROLE: ± .010 SAUF INDICATION CONTRAIRE

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D'INVENTION SONT RÉSERVÉS.

DATE: 1974  
BY: [Signature]  
REVISED: [Signature]  
REVISIONS: [Signature]  
HOLDING VALVE (REV. 10/74)  
1974 No. H04765

NO.	REV.	DESCRIPTION	DMC NO.	INT'L. REVISIONS	INT'L. DATE
1	1	NEEDLE VALVE 1/2" JPT 400-3-10	400-3-10		
2	1	CHECK VALVE 3/4" 14-6-15	3/4-14-6-15		
3	1	AUTOMATIC BRACE	HY-200-1-1		
4	1	FIXED DISPLACEMENT PISTON MOTOR	1140 F-040-103-1-1003-1000		
5	1	HOLDING VALVE 1/2" 14-6-15	400-3-10		
6	1	SHUTTLE VALVE 1/2" 14-6-15	400-3-10		
7	1	CONTROL VALVE 1/2" 14-6-15	400-3-10		
8	1	14 WAY 3 POSITION MOTOR SPOOL	14 WAY 3 POSITION MOTOR SPOOL		
9	1	CONTROL VALVE 1/2" 14-6-15	400-3-10		
10	1	PRESSURE COMPENSATED 400 SERIES	400-3-10		
11	1	PISTON PUMP 1/2" 14-6-15	1140 F-040-103-1-1003-1000		
12	1	1/4" FILTER 1/2" 14-6-15	1/4-14-6-15		
13	1	GEAR PUMP 2 1/2" 14-6-15	2 1/2-14-6-15		
14	1	OIL STRAINER 1/2" 14-6-15	1/2-14-6-15		

DRAWN BY: [Signature]		CHECKED BY: [Signature]	
DESIGNED BY: [Signature]		APPROVED BY: [Signature]	
DATE: 1974		DATE: 1974	
SCALE: 1/2" = 1'-0"		SCALE: 1/2" = 1'-0"	
SHEET NO. 1		SHEET NO. 1	
TOTAL SHEETS: 1		TOTAL SHEETS: 1	
PROJECT NO. 45998		PROJECT NO. 45998	
CUSTOMER: JOHN T. HEPBURN, LIMITED		CUSTOMER: JOHN T. HEPBURN, LIMITED	
ADDRESS: 914 DUPONT STREET, TORONTO, CANADA		ADDRESS: 914 DUPONT STREET, TORONTO, CANADA	
DIVISION: MECHANICAL DIVISION		DIVISION: MECHANICAL DIVISION	
SUBDIVISION: DIVISION MECHANICAL		SUBDIVISION: DIVISION MECHANICAL	

WINDLASS HYDRAULIC SCHEMATIC	
SHEET NO.	1
TOTAL SHEETS	1
PROJECT NO.	45998
CUSTOMER	JOHN T. HEPBURN, LIMITED
ADDRESS	914 DUPONT STREET, TORONTO, CANADA
DIVISION	MECHANICAL DIVISION
SUBDIVISION	DIVISION MECHANICAL

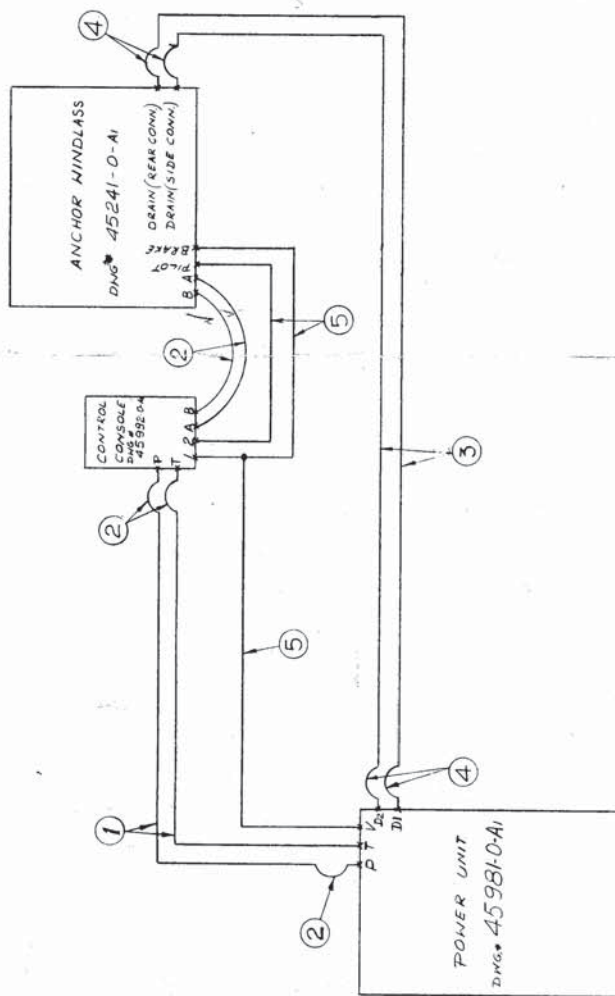
FIG. 2.5







46174-O-A2



- ① 1 1/4" SCH. 80 PIPE (A106 GR. A SEAMLESS)
- ② HOSE 1 1/4" I/DIA SAE 100R9 (GATES 6540R02)
- ③ 3/4 O/DIA TUBE x .049 WALL (STEEL)
- ④ HOSE 3/4" I/DIA SAE 100R4 (GATES C4 OR EQUIV.)
- ⑤ 3/8 O/DIA TUBE x .035 WALL (STEEL)

[illegible]

DO NOT SCALE - IF IN DOUBT ASK THE PAS MESURER - SI EN DOUTE DEMANDER

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LOWABLE VARIATION ON CONTROLLING FINISHED SURFACES IS : 0.0 UNLESS OTHERWISE SPECIFIED  
 ROUTE DIMENSIONS IN INCHES

CHANGEMENT ADMISSIBLE SUR SURFACE FINIS CONTRÔLÉS: 810 SAUF INDICATION CONTRAIRE

REVISIONS	DATE	BY SEP 11 0	CHK SEP 11 0	IN SEP 11 0

[illegible]

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[illegible]