

**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

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

**Proposal 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.

**Proposition 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 sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Title - Sujet RUDDER PINTLE AND BUSH MATERIALS	
Solicitation No. - N° de l'invitation F2599-120346/A	Date 2012-12-17
Client Reference No. - N° de référence du client F2599-120346	
GETS Reference No. - N° de référence de SEAG PW-\$\$ML-027-23417	
File No. - N° de dossier 027ml.F2599-120346	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-01-29	Time Zone Fuseau horaire Eastern Standard Time EST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Tamaro, Daniel	Buyer Id - Id de l'acheteur 027ml
Telephone No. - N° de téléphone (819) 956-5319 ()	FAX No. - N° de FAX (819) 956-0897
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

Raison sociale et adresse du

fournisseur/de l'entrepreneur

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

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

Destination Code - Code destinataire	Destination Address - Adresse de la destination	Invoice Code - Code bur.-comptable	Invoice Address - Adresse de facturation
D - 1	CCGS GRIFFON 401 - KING STREET WEST PRESCOTT, ONTARIO K0E 1T0	F2599	DEPARTMENT OF FISHERIES AND OCEANS MARINE ENGINEERING 520 EXMOUTH ST SARNIA Ontario N7T8B1 Canada



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	RUDDER PINTLE ROUGH MATERIAL STOCK FORGED 410 STAINLESS STEEL MATERIAL NORMALIZED AND TEMPERED FOR THE RUDDER PINTLES AND NUTS. THE STOCK SIZE IS SHOWN ON THE REFERENCE DRAWING EN12537-01 REV A. MINIMUM SIZES ARE AS FOLLOWS: ONE PIECE OF ROUND STOCK 43 INCHES LONG BY 12 INCHES IN DIAMETER. MATERIAL STOCK TO CERTIFIED AND STAMPED BY A MARINE CLASSIFICATION SOCIETY, APPROVED BY TRANSPORT CANADA MARINE SAFETY (TCMS)	D - 1	F2599	1	Each	\$	XXXXXXXXXXXX	See Herein	



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
2	<p>RUDDER PINTLE ROUGH MATERIAL STOCK FORGED 410 STAINLESS STEEL MATERIAL NORMALIZED AND TEMPERED FOR THE RUDDER PINTLES AND NUTS. THE STOCK SIZE IS SHOWN ON THE REFERENCE DRAWING EN12537-01 REV A. MINIMUM SIZES ARE AS FOLLOWS: ONE PIECE OF ROUND STOCK 81 INCHES LONG BY 8.5 INCHES IN DIAMETER. MATERIAL STOCK TO CERTIFIED AND STAMPED BY A MARINE CLASSIFICATION SOCIETY, APPROVED BY TRANSPORT CANADA MARINE SAFETY (TCMS)</p>	D - 1	F2599	1	Each	\$	XXXXXXXXXXXX	See Herein	

Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
3	RUDDER PINTLE BUSHING ROUGH MATERIAL STOCK ROUGH CUT MATERIAL BRONZE C93200 / SAE 660 CONTINUOUS CAST FOR THE THREE STERN FRAME BUSHINGS. THE ROUGH CUT SIZE IS THE SAME FOR THE UPPER, MIDDLE AND LOWER BUSHINGS. THE DIMENSIONS ARE SHOWN ON THE GUIDANCE DRAWING EN12537-01 REV A AND SHOULD BE MINIMUM SIZE AS FOLLOWS: ONE PIECE 34 INCHES LONG BY 13.5 INCHES O/D WITH 7 INCHES I/D.	D - 1	F2599	1	Each	\$	XXXXXXXXXXXX	See Herein	

TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION

1. Security Requirement
2. Statement of Work
3. Debriefings

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions
2. Submission of Bids
3. Enquiries - Bid Solicitation
4. Applicable Laws

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures
2. Basis of Selection

PART 5 - CERTIFICATIONS

1. Mandatory Certifications Required Precedent to Contract Award
2. Additional Certifications Precedent to Contract Award and Certifications Required with the Bid

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement
2. Statement of Work
3. Standard Clauses and Conditions
4. Term of Contract
5. Authorities
6. Payment
7. Invoicing Instructions
8. Certifications
9. Applicable Laws
10. Priority of Documents
11. SACC Manual Clauses
12. Inspection and Acceptance
13. Inspection and Stamping
14. Shipping Instructions - Delivery at Destination

List of Annexes:

- Annex A Statement of Work
Appendix 1 to Annex A Pintle bush calculation- ABS.pdf
Appendix 2 to Annex A Pintle bush calculation - LR.pdf

Solicitation No. - N° de l'invitation

F2599-120346/A

Amd. No. - N° de la modif.

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F2599-120346

File No. - N° du dossier

027mlF2599-120346

CCC No./N° CCC - FMS No/ N° VME

- Appendix 3 to Annex A Drawing No. 664-31-1, Drawing Title. Rudder Plan, Electronic File No. G05A0847.pdf (available on request from the contracting authority via email if required by the marine classification society)
- Appendix 4 to Annex A Drawing No. 664-30-1, Drawing Title. Stern Frame, Electronic File No. G05A08041.pdf (available on request from the contracting authority via email if required by the marine classification society)
- Appendix 5 to Annex A Drawing No. EN12537-01 rev A, Drawing Title. Rudder Pintles & Bushing Replacement, Electronic File No. EN12537-01 rev A.pdf (available on request from the contracting authority via email if required by the marine classification society)

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027mlF2599-120346

CCC No./N° CCC - FMS No/ N° VME

PART 1 - GENERAL INFORMATION

1. Security Requirement

There is no security requirement associated with the requirement.

2. Statement of Work

The Work to be performed is detailed under Article 2 of the resulting contract clauses.

3. Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

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

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

The 2003 (2012-11-19) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

1.1 SACC Manual Clauses

B1000T (2007-11-30) Condition of Material

2. Submission of Bids

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

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than three (3) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

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.

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

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

Section I: Technical Bid one (1) hard copy

Section II: Financial Bid one (1) hard copy

Section III: Certifications one (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

In their technical bid, bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) must be shown separately, if applicable.

1.1 Exchange Rate Fluctuation

SACC Manual Clauses C3011T (2010-01-11), Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

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

1.1 Technical Evaluation

1.1.1 Mandatory Technical Criteria

- a. In order to be technically compliant the bidder must:
 - (1) for line item 1 and 2: the Bidder must sign the Certification that the forged 410 Stainless Steel material normalized and tempered for the rudder pintles and nuts quoted is conform to the material that a Classification Society would approve for marine use for ship rudder pintles and nuts; and
 - (2) for line item 3: the Bidder must sign the Certification that the rough cut material Bronze C93200 / SAE 660 continuous cast for the three stern frame bushings. The rough cut size is the same for the upper, middle and lower bushings quoted is conform to the material a Classification Society would approve for marine rudder pintle bushings.

1.2 Financial Evaluation

The price of the bid will be evaluated in Canadian dollars, the Goods and Services Tax or the Harmonized Sales Tax excluded, FOB destination, Canadian customs duties and excise taxes included.

2. Basis of Selection

2.1 Basis of Selection - Multiple Items

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 on an item by item basis will be recommended for award of a contract.

PART 5 - CERTIFICATIONS

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

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

1. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

- 1.1.1** By submitting a bid, the Bidder certifies, for himself and his affiliates, to be in compliance with the Code of Conduct and Certifications clause of the Standard instructions. The related documentation hereinafter mentioned will help Canada in confirming that the certifications are true. By submitting a bid, the Bidder certifies that it is aware, and that its affiliates are aware, that Canada may request additional information, certifications, consent forms and other evidentiary elements proving identity or eligibility. Canada may also verify the information provided by the Bidder, including the information relating to the acts or convictions specified herein, through independent research, use of any government resources or by contacting third parties. Canada will declare non-responsive any bid in respect of which the information requested is missing or inaccurate, or in respect of which the information contained in the certifications is found to be untrue, in any respect, by Canada. The Bidder and any of the Bidder's affiliates, will also be required to remain free and clear of any acts or convictions specified herein during the period of any contract arising from this bid solicitation.

Bidders who are incorporated, including those bidding as a joint venture, must provide with their bid or promptly thereafter a complete list of names of all individuals who are currently directors of the Bidder. Bidders bidding as sole proprietorship, including those bidding as a joint venture, must provide the name of the owner with their bid or promptly thereafter. Bidders bidding as societies, firms, partnerships or associations of persons do not need to provide lists of names. If the required names have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

Canada may, at any time, request that a Bidder provide properly completed and Signed Consent Forms ([Consent to a Criminal Record Verification](http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html) form- PWGSC-TPSGC 229) (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>) for any or all individuals aforementioned within the time specified. Failure to provide such Consent Forms within the time period provided will result in the bid being declared non-responsive.

2. Additional Certifications Precedent to Contract Award and Certifications Required with the Bid

Bidders must submit the certifications as provided below:

2.1 Additional Certifications Precedent to Contract Award

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

2.1.1 Federal Contractors Program - Certification

Federal Contractors Program - over \$25,000 and below \$200,000

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

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

The Bidder or the member of the joint venture

- () is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;
- () is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;
- () is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC, having not bid on requirements of \$200,000 or more;
- () has not been declared an ineligible contractor by HRSDC, and has a valid certificate number as follows: _____ .

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

2.1.2 Additional Certifications Required with the Bid

Bidders must submit the following duly completed certifications with their bid.

Solicitation No. - N° de l'invitation

F2599-120346/A

Amd. No. - N° de la modif.

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

F2599-120346

Buyer ID - Id de l'acheteur

027ml

File No. - N° du dossier

027mlF2599-120346

CCC No./N° CCC - FMS No/ N° VME

2.1.2.1 CERTIFICATION OF COMPLIANCE: RUDDER PINTLE MATERIAL STOCK

"We hereby certify to Canada that the forged 410 Stainless Steel material normalized and tempered for the rudder pintles and nuts material stock quoted by _____ is of the type approved by a Marine Classification Society, (Company name) approved by Transport Canada Marine Safety, for marine use as ship rudder pintles as specified in the SOW (Annex A) and in accordance with the rudder specifications available from Public Works and Government Services Canada (Appendices 1, 2, 3, 4 and 5 to Annex A).

Signature of an authorised representative of the Company

Date

2.1.2.2 CERTIFICATION OF COMPLIANCE: RUDDER PINTLE BUSHING MATERIAL STOCK

"We hereby certify to Canada that the rough cut material Bronze C93200 / SAE 660 continuous cast for the three stern frame bushings quoted by _____ is of the type (Company name) approved by a Marine Classification Society, approved by Transport Canada Marine Safety, for marine use as ship rudder pintle bushings as specified in the SOW (Annex A) and in accordance with the rudder specifications available from Public Works and Government Services Canada (Appendices 1, 2, 3, 4 and 5 to Annex A).

Signature of an authorised representative of the Company

Date

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement

There is no security requirement associated with the requirement.

2. Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex "A".

3. 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.

3.1 General Conditions

2010A (2012-11-19), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

4. Term of Contract

4.1 Delivery Date

All the deliverables must be received on or before 29 March 2013.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Daniel Tamaro
Title: Senior Purchasing Assistant
Public Works and Government Services Canada
Acquisitions Branch
Directorate: Marine Systems Directorate
Address: 11 Laurier Street,
Portage III, 6C2,
Gatineau QC
K1A 0S5

Telephone: (819) 956- 5319
Facsimile: (819) 956-0897
E-mail address: Daniel.tamaro@tpsgc-pwgsc.gc.ca

Solicitation No. - N° de l'invitation

F2599-120346/A

Amd. No. - N° de la modif.

File No. - N° du dossier

027mlF2599-120346

Buyer ID - Id de l'acheteur

027ml

CCC No./N° CCC - FMS No/ N° VME

F2599-120346

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.

5.2 Contractor's Representative

The Contractor's Representative for the Contract is:

Name: _____

Title: _____

Organization: _____

Address: _____

Telephone : _____

Facsimile: _____

E-mail address: _____

6. Payment

6.1 Basis of Payment - Firm Unit Price(s)

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm unit prices, as specified in Annex A for a cost of \$ _____ (The contracting authority will insert the cost at contract award). Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

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

6.2 Limitation of Price

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

6.3 Multiple Payments

SACC *Manual* clause H1001C (2008-05-12) Multiple Payments

7. Invoicing Instructions

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

Instruction to contracting officers: Use the following paragraph when invoices must be accompanied by supporting documents. The documents listed are examples only and must be revised to reflect the requirement. Delete this paragraph if no supporting documents are required.

Each invoice must be supported by:

- a. the original and two copies of the Marine Classification Society, approved by Transport Canada Marine Safety, approved certificates for the rudder pintle rough material stock;
- b. the original and two copies of the Marine Classification Society, approved by Transport Canada Marine Safety, approved certificates for the rudder pintel bushing rough material stock;
- c. 3 copies of all additional documentation generated in the process of material approval.
- d. 1 electronic copy of all documentation in Adobe Acrobat PDF. Scans of the originals will be accepted. This electronic data shall be provided on either a CR-ROM or USB Data stick and shall not be write protected.;

Invoices must be distributed as follows:

- a. The original and one (1) copy must be forwarded to the following address for certification and payment.

DFO - Canadian Coast Guard
Marine Engineering
520 Exmouth St.
Sarnia ON
N7T 8B1
- b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.
- c. one (1) copy must be forwarded to the consignee.

8. Certifications

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.

9. Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. (The contracting authority will insert the province or territory as specified by the bidder in its bid at contract award).

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 general conditions 2010A (2012-11-19), General Conditions - Goods (Medium Complexity),

Solicitation No. - N° de l'invitation

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F2599-120346

File No. - N° du dossier

027mlF2599-120346

CCC No./N° CCC - FMS No/ N° VME

- (c) Annex A, Statement of Work;
(d) the Contractor's bid dated _____ (The contracting authority will insert the date of the bid as specified by the bidder in its bid).

11. SACC Manual Clauses

B7500C (2006-06-16) Excess Goods
D2025C (2008-12-12) Wood Packaging Materials

12. Inspection and Acceptance

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

13. Inspection and Stamping

The Contractor must ensure that inspectors from the Marine Classification Society, approved by Transport Canada Marine Safety, have inspected all the rudder pintle rough material stock and the rudder pintel bushing rough material stock and have stamped those products before shipment in accordance with Annex A.

14. Shipping Instructions - Delivery at Destination

Delivered Duty Paid (DDP) Prescott, Ontario, Incoterms 2000 for shipments from a commercial contractor.

Solicitation No. - N° de l'invitation
F2599-120346/A, ANNEX A

Client Ref. No. - N° de réf. du client
F2599-120346

Amd. No. - N° de la modif.

File No. - N° du dossier
027ml F2599-120346

Buyer ID - Id de l'acheteur
027ml

ANNEX A

CCGS Griffon Supply of Rudder Pintle and Bush Material

Specification No: 751.12

Date: November 21, 2012

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

Solicitation No. - N° de l'invitation
F2599-120346/A, ANNEX A

Client Ref. No. - N° de réf. du client
F2599-120346

Amd. No. - N° de la modif.

File No. - N° du dossier
027ml F2599-120346

Buyer ID - Id de l'acheteur
027ml

TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
1.0 GENERAL NOTES	3
2.0 VESSEL PARTICULARS.....	3
3.0 PINTLE AND BUSHING MATERIAL SUPPLY	4
3.1 IDENTIFICATION	4
3.2 REFERENCE	4
3.2.1 Drawings.....	4
3.2.2 Calculations:.....	4
3.2.3 Regulations.....	4
3.2.4 Standards.....	4
3.3 TECHNICAL	5
3.3.1 Pintles.....	5
3.3.2 Bushings	5
3.4 PROOF OF PERFORMANCE.....	5
3.4.1 Inspections.....	5
3.4.2 Certification	5
3.5 DELIVERY OF THE MATERIAL.....	6
3.5.1 Crating	6
3.5.2 Shipping Details.....	6

Solicitation No. - N° de l'invitation
F2599-120346/A, ANNEX A

Client Ref. No. - N° de réf. du client
F2599-120346

Amd. No. - N° de la modif.

File No. - N° du dossier
027ml F2599-120346

Buyer ID - Id de l'acheteur
027ml

1.0 GENERAL NOTES

This specification is to purchase rough dimension rudder pintle stock and pintle bushing material for installation at a later date.

2.0 VESSEL PARTICULARS

Name: CCGS Griffon

Type: Twin Screw, Medium Icebreaker / Navais Tender

Class of Voyage: Inland Waters Class I Fire Extinguishing and Lifesaving Appliances for a vessel of Class X.

Year Built: 1970

Shipbuilder: Davie Shipbuilding Ltd., Lauzon, Quebec

Principal Dimensions:

Length O.A.	234' – 0" (71.32m)
Length B.P.	214' – 0" (65.23m)
Breadth Mld.	49' – 0" (14.94m)
Depth Mld.	21' – 6" (6.55m)
Draft (Mld Design)	15' – 6 ¼" (4.73m)

Tonnages:

Gross	2211.87 L.T. (2252 Metric Tonnes)
Reg. Net	751.90 L.T. (765.56 Metric Tonnes)
Displacement 15' – 6 ¼"	2944 L.T. (2991 Metric Tonnes)
Deadweight Max	744 L.T. (757.5 Metric Tonnes)

Propulsion:

Twin screw, fixed pitch, diesel electric, total power 2x2000 S.H.P. Main machinery: four (4) Fairbanks Morse 38D8-1/8" diesel engines driving four (4) Westinghouse DC two wire single armature, non-reversing variable voltage generators.

3.0 PINTLE AND BUSHING MATERIAL SUPPLY

3.1 Identification

- 3.1.1 The Coast Guard intends to renew the rudder pintles and bushings of the CCGS Griffon at the vessel's next scheduled dry-docking.
- 3.1.2 In order to ensure parts are on hand for this future dry-dock, CCG wishes to have the Contractor source and supply rough material stock for the three pintles, three pintle nuts, and three bronze bushings for pintles. The Contractor to note the materials will be used on shipboard underwater application.
- 3.1.3 The supplied material shall be inspected and approved by a Marine Classification Society approved by Transport Canada Marine Safety (TCMS).

3.2 Reference

3.2.1 Drawings

Drawing No.	Drawing Title.	Electronic File No.
664-31-1	Rudder Plan	G05A0847.pdf
664-30-1	Stern Frame	G05A08041.pdf
EN12537-01 rev A	Rudder Pintles & Bushing Replacement	EN12537-01 rev A.pdf

3.2.2 Calculations:

- 3.2.2.1 Rudder Pintle design calculation – See attached electronic copies.
- Pintle & Bush calculation – ABS.pdf
 - Pintle & Bush calculation – LR.pdf

3.2.3 Regulations

- 3.2.3.1 Canada Shipping Act – Hull Construction Regulation (Latest Version).
- 3.2.3.2 Canada Shipping Act – Marine Machinery Regulation (Latest Version).

3.2.4 Standards

- 3.2.4.1 TCMS approved Classification society regulations.

3.3 Technical

3.3.1 Pintles

3.3.1.1 The Contractor shall supply forged 410 Stainless Steel material normalized and tempered for the rudder pintles and nuts. The stock size is shown on the reference drawing EN12537-01 Rev A. Minimum sizes are as follows:

- One piece of round stock 43 inches long by 12 inches in diameter;
- One piece of round stock 81 inches long by 8.5 inches in diameter.

3.3.2 Bushings

3.3.2.1 The Contractor shall supply rough cut material Bronze C93200 / SAE 660 continuous cast for the three bushings for pintles. The rough cut size is the same for the upper, middle and lower bushings. The dimensions are shown on the guidance drawing EN12537-01 Rev A and should be minimum size as follows:

- One piece 34 inches long by 13.5 inches O/D with 7 inches I/D.

3.4 Proof of Performance

3.4.1 Inspections

3.4.1.1 The pintle and bushing material shall be inspected and stamped by a TCMS approved Classification Society Inspector. TCMS maintains a list of approved Classification Societies. The Contractor shall communicate with the chosen Classification Society as to the expected test material composition certification and testing required by the Classification Society necessary for the acceptance of the materials.

3.4.1.2 The Contractor shall request that the attending Classification Society Inspector stamps each piece of new material with identifying marks and that these are recorded.

3.4.2 Certification

3.4.2.1 The Contractor shall supply to Coast Guard the following documentation:

- Classification Society material approval Certificates for the pintle material;
- Classification Society material approval certificates for the bushing material;
- All associated test certificates and material composition certificates as supplied to the Classification Society for the approval of the materials. This shall include heat numbers, heat certificates and ladle composition certificates where these have been produced for the material being supplied to Coast Guard.

3.4.2.2 All cost related to inspection and certification shall be Contractors responsibility.

Solicitation No. - N° de l'invitation
F2599-120346/A, ANNEX A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
027ml

Client Ref. No. - N° de réf. du client
F2599-120346

File No. - N° du dossier
027ml F2599-120346

3.4.2.3 The Contractor shall supply the above documentation in the following format:

- 1 original copy of the Classification Society approved certificates for the pintle material and 2 copies;
- 1 original copy of the Classification Society approved certificates for the bushing material and 2 copies;
- 3 copies of all additional documentation generated in the process of material approval.
- 1 electronic copy of all documentation in Adobe Acrobat PDF. Scans of the originals will be accepted. This electronic data shall be provided on either a CR-ROM or USB Data stick and shall not be write protected.

3.5 Delivery of the Material

3.5.1 Crating

3.5.1.1 The Contractor shall ship all stock materials in wooden shipping containers in such a way that the stock materials are protected from mechanical damaged and are prevented from movement within its shipping containers.

3.5.1.2 The shipping containers shall be fabricates such that they can be easily moved with a forklift.

3.5.2 Shipping Details

3.5.2.1 The Contractor shall arrange and be responsible for the shipment of all items to the following address:

C/O CCGS Griffon
Canadian Coast Guard Base
401 King Street West
Prescott, Ontario
K0E 1T0
Tel: (613)925-2865

Rudder Pintles Design
Ref: ABS Rule Part 3 Sec.5.7 Pintle Requirement

(1) *Pintle Diameter* $d_p = k_1 (BK_p)^{.5}$ in.

CR =	Rudder Force	n	k_R	k_{ckl}	AV^2	=	k_c	k_l	C_R
		b	At	kR			1.10	1.00	57.657
	0.00123	11.17	97.42	1.094					

imperial
3
V ice 20

$K_p =$ Material factor

n_y	Y	e	K_p	k_1
34000	42000	0.75	0.853	1.38

B = Bearing force for 3 pintles = 19.22 **actual as-fitted = 7.25"**
 $d_p = 5.589$ in

For vessel intends to navigate in extreme ice condition (Class 1A super) min. V = 20 knots

δ (min) = 7.25 in 0.00 in

(2) *Recommended pintle taper*
1:12 with with locking nut

(3) *Bearing Length* $Z_{PB} \geq 1.5 \delta_P$ = 8.38 in **actual as-fitted = 9.75"**

(4) *Bearing Pressure (on projected area)*

B (bearing force)	=	19.22 tonf
projected area =	=	70.69 sq. in.
Bearing pressure	=	609.03 psi

Allowable pressure (kg/cm²)
 bronze 1000 synthetic 800

Rudder Pintles Design

Ref: Lloyds Rule Table 13.2.9 Pintle Requirement

(1) <i>Pintle Diamete</i>	$\delta = 31 + 4.17V(APL)^{.5}$ mm		
AR =	Area of Rudder	=	
NPL =	Number of pintles	=	
APL =	AR / NPL	=	
V =	Ship speed in knots, min. 10	=	
	For vessel intends to navigate in extreme ice condition		
	- Class 1A super V = 20 knots min.		
		<i>imperial</i>	<i>metric</i>
		97.42	9.05
		3	3
		13.50	3.02
			20 knots
		δ (min) =	176 mm
			Actual as-fitted = 7.25 in.

(2) *Maximum pintle taper*

Maximum taper 1:12 with with nut fitted at top c/w locking device.

(3) *Bearing Length*

ZPB >=	1.2 δ PPL	=	
			8.31 in
			211 mm
			Actual as-fitted = 9.75 in.

(4) *Bearing Pressure (on projected area)*

PPL =	$APL (V + 3)^2 / 100$ tonne-f	=	
projected area =	7.25" x 9.75"	=	
Bearing pressure =		=	
			70.69 sq.in
			15.96 t-f
			456 sq.cm
			35.00 kg/cm ²
			synthetic
			56
			metal
			70
			Allowable pressure (kg/cm ²)