Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

Part - Partie 1 of - de 2
See Part 2 for Clauses and Conditions
Voir Partie 2 pour Clauses et Conditions

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Bid Receiving Public Works and Government Services Canada/Réception des soumissions Travaux publics et Services gouvernementaux Canada
Pacific Region
401 - 1230 Government Street
Victoria, B.C.
V8W 3X4
Bid Fax: (250) 363-3344

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
CCGS S.W. LAURIER - GEN SETS

Solicitation No. - N° de l'invitation
F1782-15C752/A

Date
2015-09-29

Client Reference No. - N° de référence du client
F1782-15C752

GETS Reference No. - N° de référence de SEAG
PW-$XLV-174-6814

File No. - N° de dossier
XLV-5-38103 (174)

CCC No./N° CCC - FMS No./N° VME

Solicitation Closes - L'invitation prend fin
at - à 02:00 PM
on - le 2015-10-22

Time Zone
Fuseau horaire
Pacific Daylight Saving Time PDT

F.O.B. - F.A.B.
Plant-Usine: ☐ **Destination:** ☑ **Other-Autre:** ☐

Address Enquiries to: - Adresser toutes questions à:
Anstey, Gregory

Buyer Id - Id de l'acheteur
xlv174

Telephone No. - N° de téléphone
(250) 363-0088 ( )

FAX No. - N° de FAX
(250) 363-3960

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:
FISHERIES AND OCEANS CANADA
SEE HEREIN

Instructions: See Herein

Instructions: Voir aux présentes

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

Delivery Required - Livraison exigée
See Herein

Delivery Offered - Livraison proposée

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

Telephone No. - N° de téléphone
Facsimile No. - N° de télécopieur

Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature **Date**

Issuing Office - Bureau de distribution
Public Works and Government Services Canada - Pacific Region
401 - 1230 Government Street
Victoria, B. C.
V8W 3X4

Canada

See attached Part 2

TABLE OF CONTENTS

CCGS SIR WILFRID LAURIER – SUPPLY ONE (1) AUXILIARY GENERATOR SET

PART 1 - GENERAL INFORMATION

1-1 Security Requirement

There is no security requirement associated with this bid solicitation.

1-2 Requirement

The Department of Fisheries and Oceans – Canadian Coast Guard requires one (1) Auxiliary Generator Set for the CCGS Sir Wilfrid Laurier in accordance with the detailed specifications attached at Annex A- Requirement.

Goods are requested to be delivered to the identified sites on or before 18 March 2016**,** as detailed in the resulting contract clauses.

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.

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 (2014-09-25) 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) 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 question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated and the enquiry can be answered to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

2-4 Applicable Laws - Bid

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

Bidder may, at its 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

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 and 1 electronic)
Section II:	Financial Bid (1 hard copy and 1 electronic)
Section III:	Certifications (1 hard copy and 1 electronic)

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

3-1.1 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.

3-1.2 Section II: Financial Bid

Bidders must submit their financial bid in accordance with Annex B, Financial Bid Presentation Sheet. The total amount of Applicable Taxes must be shown separately.

3-1.3 Section III: Certification Requirements

Bidders must submit the certifications required under Part 5.

3-2 Tables of Bid Deliverables

3-2.1 Mandatory Bid Deliverables

Regardless of requirements specified elsewhere in this bid solicitation and its associated Statement of Work, the following are the only mandatory documents that must be submitted with the response at the time of bid closing. The Bidder must be compliant on each item to be considered responsive.

No	Part	Article	Description	Condition	Document provided
Section I- Technical Bid					
1		Front page	**Request For Proposal** document part 1 page 1, completed and signed	Mandatory with the bid	☐
Section II- Financial Bid					
1	Annex B	ALL	**Annex B** Detailed Financial Presentation Sheet	Mandatory with the bid	☐

3.2.2 Supporting Deliverable Requirements

If the following information which supports the bid is not submitted with the Bid; it will be requested by the Contracting Authority, and it must be provided within 24 hours of the written request:

No	Part	Article	Description	Condition	Document provided
Section III- Certification					
1	Annex E		**Annex E** Information required for the Verification of Integrity Provisions	24 hrs of written request	☐
2	Part 6	6-5.4	Contractor representative	24 hrs of written request	☐

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

(a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria specified below.

(b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

The Bidder's Technical Bid will then be examined to determine compliance with Mandatory Technical Specification items. All details of the Genset equipment contained in the Requirement, attached at Annex "A" (as amended during bid process) are mandatory.

In order for a Bidder's submission to be found responsive, the Bidder must demonstrate in their Technical bid that the products being offered meet or exceed all the technical specifications as stated and list all additional features.

4.1.2 Financial Evaluation

The Bidder's financial bid will then be examined to determine that it is compliant with the requirements of the solicitation.

4.2 Basis of Selection

1. To be declared responsive, a bid must:
   (a) comply with all the requirements of the bid solicitation;

   (b) meet all mandatory technical evaluation criteria and

   (c) obtain the required minimum of 70% percent overall of the points for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of 5000 **points.**

2. Bids not meeting (a) or (b) or (c) will be declared Non-responsive. The responsive bid with the best "Value Score" as determined by the best value selection method specified in Annex "J" will be recommended for award.

4.3 Best Value Selection Method

The Bidder's Price score represents the weighted relative position of the Bidder's Total Price for Evaluation as compared to the lowest Bidder's Total Price for Evaluation received for this solicitation.

The Bidder's Technical score represents the weighted relative position of the Bidder's technical points awarded, in respect to the maximum technical points available.
The best value score is the sum of the Bidder's price score and the Bidder's technical score.

4.3.1 Best value selection Calculations

The following is the best value selection assessment criteria and formula that will be utilized by Canada in the evaluation of responses to this RFP. The best value selection assessment criteria and formula is provided below:

4.3.2 Criteria:

The following are the selection criteria.

(a) Maximum Technical points
(b) Total Price for Evaluation: as submitted by the Bidder
(c) Ratio of factors for best value formula: technical score equals 60%: price equals 40%

4.3.3 Formula

The following is the formula to determine the Value score that will be used for the final selection of the successful Bidder that has the Best Value Score. (See below for a sample best value determination) The Bidder's Price score is equal to ratio of the lowest Bid Total Price for Evaluation divided by the Bidder's Total Price for Evaluation that is then multiplied by 4000 (the weighting factor).

The Bidder's Technical score equals the Bidder's technical points divided by the total points available and then multiplied by 6000 (the weighting factor). The Bidder's Value score equals the sum of the Bidder's price score and the Bidder's technical score.

4.3.4 Example Best Value Determination

Based on Highest Combined Rating Technical Merit (60 percent) and Total Price for Evaluation (40 percent)

Bidder	Bidder 1	Bidder 2	Bidder 3
Technical points	4000	4500	3000
Total Evaluated Price	240 k	170 k	160 k

Bidder 1:

Technical Score =	**4000**	/	5000	x	6000	=4800
Price Score =	160	/	**240**	x	4000	=2667
Value Score =	4800	+	2667			=**7467**

Bidder 2:

Technical Score =	**4500**	/	5000	x	6000	=5400
Price Score =	160	/	**170**	x	4000	=3765
Value Score =	5400	+	3765			=**9165**

Bidder 3:

Technical Score =	3000	/	5000	x	6000	=3600
Price Score =	160	/	160	x	4000	=4000
Value Score =	3600	+	4000			=7600

Example Bidder 3: Technical Score is below 70 per cent.
Example Bidder 2: Best Value

PART 5 - CERTIFICATIONS

General

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

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

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

5.1 Certifications Required with the Bid

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

5.1.1 Declaration of Convicted Offences

As applicable, pursuant to subsection Declaration of Convicted Offences of section 01 of the Standard Instructions, the Bidder must provide with its bid, a completed Declaration Form, to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

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

5.3.1 Integrity Provisions – List of Names

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

Bidders bidding as societies, firms or partnerships do not need to provide lists of names.

5-2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from Employment and Social Development Canada (ESDC) - Labour's website.

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid " list at the time of contract award.

PART 6 - RESULTING CONTRACT CLAUSES

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

6-1 Security Requirement

There is no security requirement applicable to this Contract.

6-2 Requirement

The Contractor must provide to the Department of Fisheries and Oceans – Canadian Coast Guard one (1) Auxiliary Generator Set for the CCGS Sir Wilfrid Laurier in accordance with the detailed specifications attached at Annex A- Requirement.

6-3 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.

6-3.1 General Conditions

2010A 2015-07-03, General Conditions - Medium Complexity - Goods, apply to and form part of the Contract.

6-4 Term of Contract

6-4.1 Delivery Date

All the deliverables must be received on or before 18 **March 2016**

6-4.2 Delivery location (INCOTERM 2000 DDP)

Canadian Coast Guard
9860 West Saanich Rd
Sidney, BC V8L 4B2
Attn: Edward Camilleri
Phone: 250-363-6490

The contractor shall give the Departmental Representative at least two weeks' notice before the delivery of the modules to site.

6-4.3 Preparation For Delivery

Preparation for delivery and packaging are to be to the highest manufacturer's standard for the mode of transportation utilized, to ensure safe arrival at final destination.

6-4.4 Shipping Instructions - Delivery at Destination

1. Goods must be consigned to the destination(s) specified in the Contract and delivered Delivery Duty Paid (DDP), Incoterms 2000 for shipments from a commercial contractor.
2. The Contractor is responsible for all delivery charges from the Contractor's facility to destination, including administration costs, insurance and risk of transport.

6-4.5 Failure to keep the Contracting Authority informed

As the delivery date is an essential part of this contract, except for excusable delays notified in accordance with Article 16 (Time of Essence) of 2010, failure to communicate any changes to the delivery schedule specified in this contract will prejudice Canada and will, at Canada's discretion, entail either:

a) Contract Termination in accordance with General Conditions 2010 Article 06 (Time of the Essence) and Article 23 subsection 4, (Default by the Contractor), and the Contractor will be liable to Canada for all losses and damages suffered by Canada because of the default or occurrence upon which the notice was based, including any increase in the cost incurred by Canada in procuring the Work from another source; or

b) Consideration for Contract Amendment. Delivery date(s) will not be extended without consideration being provided by the Contractor in the form of adjustment to the price, warranty, and/or services provided.

6-5 Authorities

6-5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Greg Anstey
Title: Supply Team Leader
Address: Public Works and Government Services Canada
Pacific Region, Acquisitions, Marine
401 - 1230 Government Street
Victoria, BC, Canada V8W 3X4
Telephone: 250-363-0088
Facsimile: 250-363-3960
E-mail address: gregory.anstey@pwgsc-tpsgc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6-5.2 Technical Authority

Name: Edward Camilleri
Senior Vessel Maintenance Manager
Marine Engineering
Canadian Coast Guard
Western Region
PO Box 6000, 9860 West Saanich Road, Sidney BC V8L 4B2
Edward.Camilleri@dfo-mpo.gc.ca
Tel: 250-363-6490 Fax 250-363-6724
Cellular: 250-812-6816

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

6-5.3 Inspection Authority

Name: Edward Camilleri
Senior Vessel Maintenance Manager
Marine Engineering
Canadian Coast Guard
Western Region
PO Box 6000, 9860 West Saanich Road, Sidney BC V8L 4B2
Edward.Camilleri@dfo-mpo.gc.ca

Tel: 250-363-6490 Fax 250-363-6724
Cellular: 250-812-6816
(Information will be provided at contract award)

The Inspection Authority is the representative of the department or agency for whom the Work is being performed under the Contract and is responsible for 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.

6-5.4 Contractor's Representative

Name and telephone numbers of the person responsible for production:
Name: _____Telephone No: _____
Facsimile No.: _____ E-mail: _____

Name and telephone numbers of the person responsible for delivery:
Name: _____Telephone No: _____
Facsimile No.: _____ E-mail: _____

6-6 Payment

6-6.1 Basis of Payment - Firm Price, Firm Unit Price(s) or Firm Lot Price(s)

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm Price of $ _____. Customs duties and Goods and Services Tax or Harmonized 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.

6-6.2 Single Payment

Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Contract if:

a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
b. all such documents have been verified by Canada;
c. the Work delivered has been accepted by Canada.

6-6.3 SACC Manual Clauses

Reference	Date	T	Title
C0100C	2010-01-11		Discretionary Audit - Commercial Goods and/or Services
C0711C	2008-05-12		Time Verification
B5007C	2010-01-11		Procedures for Design Change or Additional Work

6-7 Invoicing Instructions

6-7.1 The Contractor must submit invoices in accordance with the section of the General Conditions titled Invoice Submission.

6-7.2 Invoice is to be made out to:

Fisheries and Oceans – Canadian Coast Guard
Marine Engineering
PO Box 6000, 9860 West Saanich Road,
Sidney, BC V8L 4B2
Contact: Lorie Stokes

6-7.3 Original invoice is to be sent for verification to:
Public Works and Government Services Canada
Acquisitions, Marine
401 - 1230 Government Street
Victoria, B.C., V8W 3X4 Attention: Gregory Anstey

6-8 Certifications

6-8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing associated information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the associated information, 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.

6-8.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

6-9 Applicable Laws - Contract

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. **(To be completed by the Contracting Authority at Contract Award)**

6-10 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 ; 4011 (2012-07-16)
(c) the general conditions 2010A (2014-11-27);
(d) Annex A, Statement of Work;
(e) Annex D Insurance
(f) the Contractor's bid dated _____ (*insert date of bid*)

6-11 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 fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within **five (5) 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.

6-12 SACC Manual Clauses

Reference	Title	Date
A9055C	Scrap and Waste Material	2010-08-16
A0285C	Worker Compensation	2007-05-25

ANNEX A – REQUIREMENT

The Requirement is given in an electronic file named:

TSOR(E)_F1782-15C752_Rev 0

ANNEX B - DETAILED FINANCIAL PRESENTATION SHEET

Table 6.6.1 Table

a.	**Known Work** For work as stated in Part 6 .2 and as detailed in Annex A for a FIRM PRICE of:	$_____
b.	**Delivery to destination,** (DDP- Incoterms 2000) to: **Sidney , British Columbia** for a FIRM PRICE of:	$_____
d.	**Total Firm Price (a+b)** For a FIRM PRICE of: Customs duties are included and applicable taxes are extra :	$_____

B-1 Price for Evaluation

The price of the bid will be evaluated in Canadian Dollars**,** Delivery Duty Paid (DDP) to the destination stated in Article 6-4.2 (Incoterms 2000) for Goods. Applicable taxes are excluded.

B2 Delivery

The GenSet must be delivered to the final Destination on or before **18 March 2015.**

ANNEX C - INSURANCE REQUIREMENTS

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

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

   (d) 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.

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

   (f) 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.

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

   (h) Employers' Liability (or confirmation that all employees are covered by Worker'scompensation (WSIB) or similar program).

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

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

   (k) 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.

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

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

agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

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

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

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

ANNEX D - BIDDERS' QUESTIONS AND CANADA'S RESPONSES

Solicitation # F1782-15C752

REQUIREMENT: Fabricate and deliver one Generator Set

To be completed as required during the bid solicitation period.

Item	Spec-ITT description	Questions	Answers

ANNEX E - INFORMATION REQUIRED FOR INTEGRITY PROVISIONS VERIFICATION

Please provide list of names of the following entities, according to the ownership nature of the company

1. For a Corporation - each current member of the Bidder's Board of Directors;

_____
_____
_____
_____

2. For a Partnership, General Partnership or Limited Partnership - the names of all current partners;

_____
_____
_____
_____

3. For a Sole Proprietorship or an individual doing business under a firm name - the name of the sole proprietor or individual;

_____
_____
_____
_____

4. For a Joint Venture - the names of all current members of the Joint venture;

_____
_____
_____
_____

5. For an individual - the full name of the person

_____
_____
_____
_____

ANNEX F - BEST VALUE DETERMINATION

F1 Best Value Selection Method

The Bidder's Price score represents the weighted relative position of the Bidder's Total Price for Evaluation as compared to the lowest Bidder's Total Price for Evaluation received for this solicitation.

The Bidder's Technical score represents the weighted relative position of the Bidder's technical points awarded, in respect to the maximum technical points available.

The best value score is the sum of the Bidder's price score and the Bidder's technical score.

F2 Best value selection Calculations

The following is the best value selection assessment criteria and formula that will be utilized by Canada in the evaluation of responses to this RFP. The best value selection assessment criteria and formula is provided below:

F2.1 Criteria:

The following are the selection criteria.

(a) Maximum Technical points
(b) Total Price for Evaluation: as submitted by the Bidder
(c) Ratio of factors for best value formula: technical score equals 60%: price equals 40%

F2.2 Formula

The following is the formula to determine the Value score that will be used for the final selection of the successful Bidder that has the Best Value Score. (See below for a sample best value determination) The Bidder's Price score is equal to ratio of the lowest Bid Total Price for Evaluation divided by the Bidder's Total Price for Evaluation that is then multiplied by 4000 (the weighting factor).

The Bidder's Technical score equals the Bidder's technical points divided by the total points available and then multiplied by 6000 (the weighting factor). The Bidder's Value score equals the sum of the Bidder's price score and the Bidder's technical score.

F3 Example Best Value Determination

See Part 4 of the bid solicitation.

F4 EVALUATION GRID

**NOTE **

1) Bidders must demonstrate that the proposed Genset and its equipment meet all the requirements of the RFP, by providing the supporting documentary evidence.
2) Bidders' technical proposal must be clear, logical, well organized, complete, easy to follow and professionally produced, must be numbered and follow the sequence of the evaluation elements specified in the RFP.

Grid 1	1.0 Contractors Proposal	(max possible points 100) Reasons for Point Rating	Points Scored
100 max	Contractors proposal includes all items in the specification.		
90 max	Contractors proposal includes all items in the specification save for one to two minor items.		
80 max	Contractors proposal includes all items in the specification save for three to five minor items.		
50 max	Contractors proposal includes all items in the specification save for six to ten minor items		
0	Contractor's proposal does not adequately address items as stated in the specification.		

Grid 2	3.4 Class Approved	(max possible points 10) Reasons for Point Rating	Points Scored
10 max	ABS or DNV-GL or LR or BV		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		
Proposal must indicate what classification society will approve the genset. N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 3	3.7 Exhaust flow rate	(max possible points 10) Reasons for Point Rating	Points Scored
10 max	< 2.5 m3/s		

N/C	Contractor's proposal does not adequately address items as stated in the specification.		
Proposal must provide exhaust flow rate information. N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 4	3.9 Re-coupling warrantee	(max possible points 30) Reasons for Point Rating	Points Scored
30 max	Warrantee valid after recoupling		
0 max	Warrantee for items related to coupling misalignment not valid after recoupling		
Proposal must provide warrantee details about reassembly.			

Grid 5	3.10 ambient temp	(max possible points 10) Reasons for Point Rating	Points Scored
10 max	Engine rated for continuous full rated load at 50 C ambient temp.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		
Proposal must provide ambient operating temperature information. N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 6	3.11 Services, parts facility and representative	(max possible points 400) Reasons for Point Rating	Points Scored
400 max	2 Located in coastal areas of BC		
300 max	2 Located within the North American Pacific Time zone		
200 max	2 Located within the North American Mountain Time zone or Pacific Time zone		
100 max	2 Located within the North American Central Mountain or Pacific Time zone		
10 max	2 Located within the North American Eastern, Central, or Mountain, or Pacific Time zone		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		

Proposal must provide detail of available services offered for the proposed genset, identify the locations of this facility unit, parts facility and key personnel. N/C (Non-Compliant): Bids will be declared Non-responsive.

Grid 7	3.13 The diesel engine must designed for operation on MGO. The engines must be fresh water cooled with the jacket water heat exchanger and expansion tank mounted on the engine. Aftercoolers or intercoolers may be raw water cooled; if so they must be designed and built for salt water service. Starting must be with compressed air, with local control at the generator set and remote control from the machinery control room (MCR).	(max possible points 10) Reasons for Point Rating	Points Scored
10 max	Contractor's proposal adequately addresses items as stated in the specification.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		

Proposal must provide arrangement and fuel details.

N/C (Non-Compliant): Bids will be declared Non-responsive.

Grid 8	3.15 Bulk Lube oil	(max possible points 100) Reasons for Point Rating	Points Scored
100 max	Engine Capable of utilizing a bulk lubricating oil		
0 max	Engine oil only available from OEM		

Proposal must provide lube oil specifications.

Grid 9	3.21 certified IMO-II or better.	(max possible points 100) Reasons for Point Rating	
100 max	Certified IMO-III		
50 max	Certified IMO-II		
N/C	Not Certified IMO-II or IMO-III or IMO-IV		

Proposal must provide IMO certification information.
N/C (Non-Compliant): Bids will be declared Non-responsive.

Grid 10	3.22 mechanically generated sound	(max possible points 250) Reasons for Point Rating	Points Scored
25 max	122 to 125 dB(A)		
50 max	119 to 122 dB(A)		
75 max	116 to 119 dB(A)		
100 max	113 to 116 dB(A)		
125 max	110 to 113 dB(A)		
150 max	107 to 1110 dB(A)		
175 max	104 to 107 dB(A)		
200 max	101 to 104 dB(A)		
225 max	98 to 101 dB(A)		
250 max	95 to 98 dB(A)		
Proposal must provide mechanically generated sound information.			

Grid 11	4.0 Genset dimensions	(max possible points 100) Reasons for Point Rating	
N/C	Height >2.74m; Length >4.87m; or Width >1.82m		
50	Height 2.74m to 1.8m; Length < 4.87m; and Width<1.82m		
100	Height <1.8m; Length < 4.87m; and Width<1.4m		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		
Proposal must provide drawings of the genset unit (both the main and emergency) showing clearly the genset dimension in length width and high overall. N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 12	4.2 exhaust outlet	(max possible points 100) Reasons for Point Rating	Points Scored
100 max	Arrangement for horizontal exhaust outlet available and will be provided within the space set out in 4.1.		
50 max	Arrangement for a horizontal exhaust outlet is possible within the space set out in 4.1.		
N/C	Exhaust cannot be directed horizontally within the space set out in 4.1		
Proposal must provide drawings of the exhaust outlet. N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 13	4.3 cylinder head and liners removable	(max possible points 10) Reasons for Point Rating	Points Scored
10 max	Heads and liners can be removed within the space set out in 4.1.		
N/C	Heads and liners cannot be removed within the space set out in 4.1		
Proposal must provide drawings of heads and liners. N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 14	5.1 cooling treatment	(max possible points 100) Reasons for Point Rating	Points Scored
100 max	Maxigard cooling treatment under warrantee on raw water and jacket water side.		
90 max	Maxigard cooling treatment under warrantee on raw water side.		
0 max	Maxigard cooling treatment not under warrantee		
Proposal must state what (if any) chemical interaction maxigard will have on the jacket water cooler.			

Grid 15	5.2.19 Starting	(max possible points 200) Reasons for Point Rating	Points Scored
200 max	Turbotwin turbine air starter requiring 9.56 Bar or less		
100 max	Turbine type air starter requiring 9.56 Bar or less		
Proposal must provide air starter information			

Grid 16	5.2.20 Pre-start heater	(max possible points 100) Reasons for Point Rating	Points Scored
100 max	Kim Hot Start Pre-start heater or constant block heater for approximately 600 V with 3 phases		
50 max	approximately 600 V with 3 phases heater		
Proposal must show the pre heater information			

Grid 17	6.1.1.4 Engine running monitoring	(max possible points 100) Reasons for Point Rating	Points Scored
100 max	Service meter (define as digital meter showing future service of the units)		
20 max	Analog hour meter		
Proposal must provide type and model.			

Grid 18	6.2 Alarms and shutdowns for marine class approval	(max possible points 10) Reasons for Point Rating	Points Scored
10 max	Contractor's proposal adequately addresses items as stated in the specification.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		
Proposal must provide a list of alarms and shutdowns to be provided. Proposal must show how this list meets marine class approval. N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 19	6.3.7 to 6.3.1.19 Data link details	(max possible points 200) Reasons for Point Rating	Points Scored
200 max	All items: 6.3.7 to 6.3.19		
100 max	90% of items		
50 max	50% of items		
25 max	25% of items		
Proposal must provide details of remote connection data link			

Grid 20	6.4 Panel Ingress Protection Rating	(max possible points 10) Reasons for Point Rating	Points Scored
10 max	Protection higher than IP 23		
0 max	Protection to IP 23		
Proposal must define clearly in their proposal the panel protection integrity or give and equivalent to IP protection.			

Grid 21	7.1 Generator electrical power	(max possible points 1000) Reasons for Point Rating	Points Scored
200 max	Genset proposed from 575 ekW to 600 ekW		
1000 max	Genset proposed from 600 ekW to 625 ekW		
1000 max	Genset proposed from 625 ekW to 650 ekW		
200 max	Genset proposed from 650 ekW to 675 ekW		
100 max	Genset proposed from 675 ekW to 700 ekW		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		
Proposal must provide and define clearly in their proposal the electrical generator ekW. N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 22	7.2.1 Short Circuit capacity	(max possible points 100) Reasons for Point Rating	Points Scored
100 max	Short circuit capacity from 11 to 15 sec.		
50 max	Short circuit capacity lower than 11 sec.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		

Proposal must proof of short circuit capacity by providing either supporting calculation or OEM serial built information.

N/C (Non-Compliant): Bids will be declared Non-responsive.

Grid 23	7.2.2 110% rated eKW overload for 1 hour	(max possible points 10) Reasons for Point Rating	Points Scored
10 max	Contractor's proposal adequately addresses items as stated in the specification.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		

Proposal must provide details of overload testing.

N/C (Non-Compliant): Bids will be declared Non-responsive.

Grid 24	7.3 600V AC 3 phase	(max possible points 10) Reasons for Point Rating	Points Scored
10 max	Contractor's proposal adequately addresses items as stated in the specification.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		

Proposal must provide details of generator voltage and number of phases.

Proposal must provide details of excitation and winding pitch.

N/C (Non-Compliant): Bids will be declared Non-responsive.

Grid 25	7.4.9 Alternator efficiency	(max possible points 100) Reasons for Point Rating	Points Scored
100 max	From 92.3% to 96.8%		
50 max	From 88% to 92.2 %		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		

Proposal must provide the Alternator Efficiency.

N/C (Non-Compliant): Bids will be declared Non-responsive.

Grid 26	9.1 Testing	(max possible points 200) Reasons for Point Rating	Points Scored
200 max	Generator Testing facility in British Columbia		

100 max	Generator Testing facility in Canada		
10 max	Contractor's proposal adequately addresses items as stated in the specification.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		
N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 27	10.3 Diesel engine speed [RPM] and piston stroke	(max possible points 500) Reasons for Point Rating	Points Scored
500 max	RPM x Stroke [m] / 30 <= 7 [m/s]		
400 max	RPM x Stroke [m] / 30 <= **8** [m/s]		
200 max	RPM x Stroke [m] / 30 <= 9 [m/s]		
25 max	RPM x Stroke / 30 [m] <= 10 [m/s]		

Grid 28	10.3.6. Number of Engine cylinders	(max possible points 1000) Reasons for Point Rating	Points Scored
1000 max	4 to 8 Cylinders per engine		
500 max	8 to 12 Cylinders per engine		
100 max	12 to 16 Cylinders per engine		
0 max	16 or more Cylinders per engine		

Grid 29	12.1 one (1) year warranty	(max possible points 10) Reasons for Point Rating	Points Scored
10	Contractor's proposal adequately addresses items as stated in the specification.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		
N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 30	12.2 and 12.3 FSR requirements and alternator to generator reassembly procedure.	(max possible points 10) Reasons for Point Rating	Points Scored
10	Contractor's proposal adequately addresses items as stated in the specification.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		
N/C (Non-Compliant): Bids will be declared Non-responsive.			

Grid 31	5.3.10 & 7.4.15 Electronic Engine Controls and Load Sharing interface.	(max possible points 20) Reasons for Point Rating	Points Scored
20	Contractor's proposal will supply the same switchboard interface as the fitted Woodward 2310D.		
N/C	Contractor's proposal does not adequately address items as stated in the specification.		
N/C (Non-Compliant): Bids will be declared Non-responsive.			

Maximum Technical points grid 1 to 10	1020
Maximum Technical points grid 11 to 20	1920
Maximum Technical points grid 21 to 30	2040
Maximum Technical points grid 31	20
Sum (Above)	5000

ANNEX "A" REQUIREMENT

CANADIAN COAST GUARD, WESTERN REGION

INTREGRATED TECHNICAL SERVICES – MARINE ENGINEERING

CCGS SIR WILFRID LAURIER

STATEMENT OF REQUIREMENTS

For

SUPPLY OF ONE AUXILIARY GENERATOR SET

1. SCOPE

The CCGS SIR WILFRID LAURIER requires one auxiliary generator set.

"Genset" is defined as: diesel engine, control panel and alternator with connection box. Engine and alternator must be fastened to a steel skid frame mounted on resilient mounts.

2. REFERENCES

2.0 References

2.1 Standards

2.1.1 International:

2.1.1.1 Convention – the International Convention for the Prevention of Pollution from Ships 1973/1978 (MARPOL 73/78) particularly regulation part regulation 13(3)(b)(i) of Annex VI to the Pollution Convention and subsequent amendment

2.1.1.2 MEPC 58/23/Add., Annex 13, Resolution MEPC.176 (58), ADOPTED ON 10 OCTOBER 2008. AMENDMENT TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIP, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO (REVISED MARPOL ANNEX VI)

2.1.1.3 MEPC 65/22/Add., Annex 8, Resolution MEPC.230 (65), Adopted on 17 May 2013 2013 GUIDELINES AS REQUIRED BY REGULATION 13.2.2 OF MARPOL ANNEX VI IN RESPECT OF NON-IDENTICALREPLACEMENT ENGINES NOT REQUIREDTO MEET THE TIER III LIMIT (Revised MARPOL Annex VI)

http://www.imo.org/KnowledgeCentre/IndexofIMOResolutions/Documents/MEPC%20-%20Marine%20Environment%20Protection/230%2865%29.pdf

2.1.1.4 Classification Society Rules and Regulations for the Classification of Ships.

2.1.4.5 IEEE 45 Recommended Practice for Electric Installations on Shipboard

2.1.4.5 ISO 3046-1 Reciprocating internal combustion engines – Performance --

2.1.2 Canadian:

2.1.2.1 Canada Shipping Act, 2001,

a) Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals. Part Nitrogen Oxides (NO_x) — Diesel Engines section 154. (1)

b) Marine Machinery Regulations

c) Technical Publication: Ships Electrical Standards (2008) - TP 127 E

2.1.3 United States of America:

2.1.3.1 Certified to the US Environmental Protection Agency (EPA) Tier 3

http://wwww.ecfr.gov Title 40 → Chapter I → Subchapter U → Part 1042 → Subpart B

Evaluation guidance	The evaluation guidance to the left of the sections below refers to the Evaluation document that will be used to rate bids. Abbreviations used are: M – Mandatory deliverable. The evaluation team will evaluate the item as per Grid 1. Failure to meet any one item does not necessarily disqualify a bidder. M/R – Mandatory Deliverable/Rated Item. The item will be rated points according to the specific relevant grid. M/R* - Mandatory Mandatory Deliverable/Rated Item. The item will be rated points according to the specific relevant grid. If non-compliant the bid will be rejected.
	3. GENERAL
	3.0 **General**
M	3.1 The genset must be engineered and supplied as a factory-built unit.
M	3.2 The genset must be mounted on a painted steel frame. The frame must be mounted on oil resistant vibration resilient mounts. Lo-Rez mounts must be used.
M	3.3 Resilient mounts must have a captive feature that must restrain the equipment if the mount fails.
M/R* Grid 2	3.4 The genset must have a marine classification society approval certificate. The certification must be provided and can be from any of the following classification societies: a) American Bureau of Shipping (ABS) b) DNV-GL c) Lloyd's Register (LR) d) Bureau Veritas (BV)

M	3.5	The genset must be able to be started remotely from the switchboard and must be able to be started locally at its local control panel. Local control must allow un-interrupted run command when switching from local control to remote.
M	3.6	The genset must be controllable from the auxiliary switchboard and through the power management system for load distribution and paralleling.
M/R Grid 3	3.7	The genset must have a maximum total exhaust flow rate at 110 per cent load of less than 2.5 cubic meters per second.
M	3.8	The alternator section must be mounted on a common base with the diesel engine. The alternator must be aligned with and close coupled to the engine.
M/R Grid 4	3.9	If it is necessary to decouple the engine and alternator package for the purpose of installation, product warranties must remain intact upon reassembly. It will be acceptable if a company field service representative (FSR) is required during installation to supervise the decoupling and recoupling of the engine and alternator package in order to retain warranty.
M/R* Grid 5	3.10	Diesel generator sets must be rated for continuous marine prime power operation at full rated load in a 50°C ambient environment.
M/R* Grid 6	3.11	Proposed engine models must currently be in marine service and must have Original Equipment Manufacturer (OEM) representation in Canada. There may be OEM representation by different companies in different parts of Canada. The OEM representative companies (or company) must be capable of providing thorough engine documentation support, spare parts and qualified field service representatives for the provided equipment, and capability for normal overhaul and repair within their region of operation. The OEM representation for parts and service must be available within 48 hours at all of the following locations that are in their region of operation: St. John's NL, Halifax NS, Québec QC, or Victoria, BC.
M	3.12	Engine rating must be based on standard conditions of 100 kPa (29.61 in Hg) and 25°C (77° F). Ratings must include engine driven fresh water and lube oil pumps. Fuel consumption must be based on ISO3046/1 with +5% tolerance at rated power for fuel having a lower heating value(LHV) of 42,780 kJ/kg (18,390 Btu/lb) and weighing 838.9 g/litre (7.001 lbs/US gal.).
M/R* Grid 7	3.13	The diesel engine must be designed for operation on MGO. The engines must be fresh water cooled with the jacket water heat exchanger and expansion tank mounted on the engine. Aftercoolers or intercoolers may be raw water cooled; if so they must be designed and built for salt water service. Starting must be with compressed air, with local control at the generator set and remote control from the machinery control room (MCR).
M	3.14	The engine must be supplied with a deep marine oil sump with sufficient capacity that, according to the manufacturer's published recommended heavy duty

		industrial or marine maintenance schedule, will allow for oil change intervals of at least 500 hours. A dipstick or bayonet gauge must be provided for gauging the lubricating oil level while the diesel engine is running under load. Each engine must be fitted with an engine mounted, jacket water cooled, lube oil cooler.
M/R Grid 8	3.15	The engine must be capable of utilizing a bulk lubricating oil such as those supplied by a major oil supplier such as: Exxon Mobil, Royal Dutch Shell, BP, Chevron, or Suncor.
M	3.16	Each engine must be equipped with duplex spin-on disposable cartridge type full flow filters on the discharge side of the engine oil header. The filters must be conveniently located to facilitate oil change. Elements must conform to engine manufacturer's specifications. A relief valve must be provided external to the filter casing. The relief valve must bypass oil around the filter if the filter becomes clogged and provide notification of the same.
M	3.18	A system must be provided to dissipate, through the engine intake, all engine generated oil fumes. The system must be a Walker ECO-Vent, or equal.
M	3.19	A Fast Lube Oil Change System (FLOCS) must be installed on the engines to allow for convenient oil changes and ease of maintenance.
M	3.20	No external part of the engine may run at a temperature above that of the jacket water or lube oil. Exhaust manifolds and turbochargers must be water cooled and must be part of the engine jacket water system. If any components are insulated, the insulation must meet the requirements of TCMS. Seams or joints in insulation must be located so as not to trap oil or water from leaks or spills.
M/R* Grid 9	3.21	The genset engine must be certified IMO-II or better.
M/R Grid 10	3.22	The genset engine must not generate more than 125 A-weighted decibels (dB(A)) mechanically generated sound at one meter from the smallest rectangle that would completely enclose the bare engine at 375 ekW or more in open air. Do not include exhaust uptake sound.
M	3.23	The genset must be supplied with all mechanical specialty tools and all diagnostic interface peripherals and cables required for routine maintenance and/or major overhaul.
M	3.24	The genset must be supplied with diagnostic software and licences required for routine maintenance and/or major overhaul. The software licences must be valid for five years or more.

	4. AVAILABLE SPACE:
M/R* Grid 11	4.0 **Genset dimensions** 4.1 The maximum dimensions available for the genset including its skid, resilient mounts and exhaust piping are as follows: 4.1.1 Height: 2.74 Meters 4.1.2 Length: 4.87 Meters 4.1.3 Width: 1.82 Meters
M/R* Grid 12	4.2 The engine exhaust outlet and available uptake path do not coincide longitudinally; the maximum engine height or configuration must allow unobstructed access for exhaust flow to be piped horizontally away from the free end of the engine and aligned at an angle of up to 45 degrees from the engine centerline to the uptake.
M/R* Grid 13	4.3 The engine cylinder head(s) covers, and cylinder liners must be removable within the maximum dimensions available (see 4.1) so as to allow overhaul in place.
	5. GENERATORS DIESEL ENGINE DESCRIPTION AND FEATURES
	5.0 **Diesel engine description and features**
M/R Grid 14	5.1 The engine must have manufacturer approved cooling water treatment. MAXIGARD cooling water treatment is preferred since it is used in the vessel's central cooling water system but a requirement to use a specific OEM coolant in the engine will be acceptable. The engine jacket water cooler must be able to withstand MAXIGARD treated fresh water on the raw water side of the cooler. The engine supplier must state i.) if MAXIGARD can be used on the raw water side of the cooler and ii.) if MAXIGARD can be used in the engine without damaging seals or alloys.
	5.2 The diesel engine must have at a minimum the following equipment or features:
M	5.2.1 Engine mounted sea water heat exchanger
M	5.2.2 Cooling water pump
M	5.2.3 jacket water pump
M	5.2.4 duplex oil filters;
M	5.2.5 crankcase breather;
M	5.2.6 oil filler;
M	5.2.7 oil level gauge (dipstick);
M	5.2.8 oil pan with drain;
M	5.2.9 gear-driven engine oil pump;
M	5.2.10 duplex fuel filters;
M	5.2.11 fuel transfer pump;

M	5.2.12	fuel priming pump;
M	5.2.13	electronic governor;
M	5.2.14	electronically controlled unit injection system;
M	5.2.15	after-cooler;
M	5.2.16	air cleaner;
M	5.2.17	turbocharger;
M	5.2.18	exhaust system shields;
M/R Grid 15	5.2.19	Turbotwin turbine air starter requiring 9.56 Bar or less pressure This is consistent with all other air starters on the vessel reducing training, inventory, and maintenance cost.
M/R Grid 16	5.2.20	Kim Hot Start Pre-start heater or constant block heater for approximately 600 V with 3 phases.
	5.3	The diesel engine must be complete with all necessary engine equipment including appropriate sensors and controls to meet, as a minimum, the requirements of Classification Society. Equipment must include the following:
M	5.3.1	All necessary on-engine air, exhaust, coolant, fuel and oil flexible and rigid piping
M	5.3.2	Dry type air intake filters and attaching hardware.
M	5.3.3	Exhaust bellows.
M	5.3.4	Duplex fuel pre-filter (Racor or equivalent).
M	5.3.5	Duplex secondary fuel filters.
M	5.3.6	Manual fuel priming pump to aid in priming fuel system after filter changes
M	5.3.7	Fuel lines must be double walled or totally enclosed as to prevent fuel spray on exhaust in the event of failure.
M	5.3.8	Engine-driven fuel pump, fresh water pumps and raw water pump.
M	5.3.9	Jacket water expansion tank.
M/R* Grid 31	5.3.10	Electronic engine controls (Woodward or equivalent).
M	5.3.11	Turning gear (barring device)
		6. LOCAL CONTROL / MONITORING PANEL
M	6.1	The genset must have a Local Control/Monitoring panel which must include:
M	6.1.1	A local and monitoring panel with:
M	6.1.1.1	Emergency stop button.
M	6.1.1.2	Local /Remote switch
M	6.1.1.3	Start and Stop buttons;
M/R Grid 17	6.1.1.4	Digital Service meter or analog hour meter;
M	6.1.1.5	Tachometer;
M	6.1.1.6	Analog or digital Oil pressure gauge;

M	6.1.1.7 Analog or digital Fuel inlet/outlet filter pressure gauge;
M	6.1.1.8 Analog or digital Charge air pressure gauge;
M	6.1.1.9 Analog or digital Jacket water temperature gauge;
M	6.1.1.10 Lubrication oil temperature gauge;
M	6.1.1.11 Exhaust temperature gauge;
M	6.1.1.12 Hour meter;
M	6.1.1.13 Starting air pressure gauge;
M	6.1.1.14 Overspeed shutdown alarm indication;
M	6.1.1.15 High jacket water temperature shutdown alarm indication.
M/R* Grid 18	6.2 The genset must have the required alarms and shutdowns for marine class approval.
	6.3 Remote connection: The genset must include:
M	6.3.1 Emergency stop terminal interface for switchboard mounted emergency stop button;
M	6.3.2 Emergency stop terminal interface for ships existing emergency stop system;
M	6.3.3 Data link for genset control;
M	6.3.4 Data link for Hi-Pressure Double Wall Fuel Line Flow Alarm, as applicable to engine design;
M	6.3.5 Data link for Primary Speed Sensor Fail Alarm;
M	6.3.6 Data link for Fuel Rack Position or Percent Load;
M/R* Grid 19	6.3.7 Data link for Low Lubricating Oil Pressure Shutdown; 6.3.8 Data link for High Lubricating Oil Temperature Shutdown; 6.3.9 Data link for Generator Battery Back-up power supply; 6.3.10 Data link for Generator Battery Charger Failure; 6.3.11 Data link for Winding Temperature – Phase A, Phase B and Phase C; 6.3.12 Data link for Current – Phase A, Phase B and Phase C; 6.3.13 Data link for Voltage – Phase A, Phase B and Phase C; 6.3.14 Data link for Generator Frequency; 6.3.15 Data link for Alternator Bearing Temperatures; 6.3.16 Data link for Overspeed shutdown and alarm and indication; 6.3.17 Data link for High jacket water temperature shutdown alarm and indication; 6.3.18 Data link for Raw water pressure indication; 6.3.19 Data link for Raw water pressure alarm.
M/R Grid 20	6.4 Ingress Protection Rating 6.4.1 The monitoring panel must be at a minimum IP 23 enclosure protection or higher.

7. ELECTRICAL GENERATOR FEATURES AND REQUIRMENTS

	7.0 Electrical generator features and requirements.
	7.1 Power:
M/R* Grid 21	7.1.1 Genset rating: Minimum 575 ekW (719kVA); Maximum 700 ekW (868kVA) at 100 % load. The genset must be rated to run unlimited hours per year at an average loading of 70% or more of this minimum electric Kilowatt (ekW) rating.
	7.2 Overload:
M/R* Grid 22	7.2.1 Genset: Short-circuit capability of 300% for 10 to 15 seconds.
M/R* Grid 23	7.2.2 The electrical generator must be able to withstand 110% rated eKW overload for 1 hour.
	7.3 Voltage:
M/R* Grid 24	7.3.1. The generator must be 600 Volt, 3-phase brushless, separately excited from auxiliary winding to provide 2/3 pitch, broad voltage band.
	7.4 General Requirements:
M	7.4.1 Exciter Type: Brushless, self-exciting, Permanent magnet;
M	7.4.2 Frequency: 60 Hertz, remote adjustment (on switchboard);
M	7.4.3 Waveform deviation line — line at no-load 0% to 3%;
M	7.4.4 Connection Type: 3 Phase and 4 Wires, ¡Y¡ type connection, 12 leads re-connectable;
M	7.4.5 Automatic Voltage Regulation, Steady State: +/- 0.25% to +/- 2%;
M	7.4.6 Solid state voltage regulator with integral voltage adjustment; (remote adjustment on switchboard);
M	7.4.7 IEEE 115 Compliant; Test Procedures for Synchronous Machines Part I Acceptance and Performance Testing Part II Test Procedures and Parameter Determination for Dynamic Analysis;
M	7.4.8 Power Factor: min: 0.8 Lagging to max: 0.85 Lagging;
M/R* Grid 25	7.4.9 Alternator Efficiencies: 88% to 100%;
M	7.4.10 Voltage balance: With balanced loads, the voltage must be within 1.0% between phases;
M	7.4.11 Telephone influence factor (TIF): meets or exceeds NEMA MG-1-22.43 standards (<50);
M	7.4.12 Telephone harmonic factor (THF): meets or exceeds IEC 60034-1 requirements (<2%);
M	7.4.13 Harmonic content: single harmonic less than 3%, total harmonic less than 4%;
M	7.4.14 Winding heater;
M/R* Grid 31	7.4.15 Load sharing interface hardware that supplies the same switchboard interface as the fitted Woodward 2301D must be supplied. This new hardware must provide for load sharing for the supplied genet.

	7. 5 Monitoring: The alternators must include terminals for connection of remote monitoring of:
M	7.5.1 Voltage with phase selector;
M	7.5.2 Amperage with phase selector;
M	7.5.3 Frequency.
	8. ELECTRICAL GENERATOR GENERAL FABRICATION REQUIREMENT
	8.1 Generator frame:
M	8.1.1 The generator frame must be made with strength and support where needed. Stator frames must be welded with heavy rings and bar steel. Heavy gauge steel formed and fastened to the frame.
	8.2 Rotor and Stator insulation:
M	8.2.1 The insulation must be void-free 100% solids resin vacuum impregnation, Class H insulation
	8.3 Cooling:
M	8.3.1 The generator must be self-ventilated and drip proof rated to a minimum of IP 23
	9. GENERATOR TESTING
M/R* Grid 26	9.1 The diesel generator sets must be tested in accordance with Classification and Regulatory requirements and at a minimum the genset must also be tested at an approved Class Society (per list in paragraph 3.3) facility. Testing is to include full load 100% for 4 hrs and 1 hour at 110% power prior to delivery. Engine and alternator must be tested at 0.8 power factor as a combined unit in manufacturer's plant to demonstrate compliance with the specified requirements. The tests must be witnessed by the Classification Society (also a Contractor furnished service), TCMS (also a Contractor furnished service), the Inspection Authority and the Technical Authority. Sets must have prior analysis for torsional vibration. Results of analysis must be delivered to Technical Authority.
M	9.1.1 The Contractor must perform all necessary checks, record readings and comply with the running-in procedure as per manufacturer's recommendations. All readings must be submitted to the Technical Authority (TA).
M	9.1.2 During the running-in procedure, the Contractor must ensure the proper setting of all alarms and emergency shut-downs and must verify the accurate calibration of all associated monitoring equipment.
M	9.1.3 The Contractor must afford the TA the opportunity to witness the testing of all normal and emergency engine shut downs. The results of these tests must

		be recorded and submitted to the TA.
M	9.1.4	During this load test, the Contractor must record all engine and electrical generator operating parameters every quarter hour. All gauge readings must be verified and all shutdowns and alarms must be demonstrated. The temperatures and or pressures at which the alarm sounds and or when shutdown occurs are to be recorded.
M	9.1.5	After the tests are complete, the engines and generators must be prepared for long term storage, treated with preservatives, and covered (this is to protect them while stored inside a warehouse).
	9.2 Electrical generator testing. The following must be tested:	
M	9.2.1	Resistance on all windings (cold)
M	9.2.2	Insulation resistance on all windings
M	9.2.3	High potential test on all windings
M	9.2.4	Open-circuit saturation curve
M	9.2.5	Voltage balance on windings
M	9.2.6	Current balance on windings
M	9.2.7	Phase sequence
M	9.2.8	Mechanical balance (vibration)
M	9.2.9	Regulator range (voltage adjust) test
	9.3 Documentation:	
M	9.3.1	A detailed printed report of all work carried out including all findings, defects and test readings must be provided to the attending TCMS surveyor and the TI/TA for the factory electrical generator and engine testing. Digital copies must also be provided (Text searchable PDF is preferable).
M	9.3.2	A set of complete drawings of the genset must be provided including general arrangement outlining the dimensions and general part number, engine electrical diagram and alternator main electrical schematic drawing must be provided. Digital copies must also be provided (AutoCAD 2010 preferred, PDF is acceptable).
M	9.3.3	The manufacturer's published maintenance schedule for heavy duty /marine/industrial service must be provided.
	10. OPERATION AND MAINTENANCE PROCEDURE	
M	10.1	Installation, Operation and Maintenance Manuals. (Two hard copies and two CD's) Each Manual must be complete and specific to the make and model supplied. It must be made clear what is relevant and what is not.
M	10.2	List of current retail price, lead-time, and part numbers of recommended consumable spares for 2 years and recommended spares for 5 year life cycle maintenance.

	10.3 The Contractor must supply Engine Specification Data including:
M	10.3.1. Diesel engine maximum continuous rating;
M/R Grid 27	10.3.2. Diesel engine RPM;
M	10.3.3. Engine specific fuel consumption at full load;
M	10.3.4. Engine exhaust gas temperature at full load;
M/R Grid 27	10.3.5. Engine bore and stroke;
M/R Grid 28	10.3.6. Number of Engine cylinders;
M	10.3.7. Heat dissipated in jacket water cooler and engine inlet and outlet jacket water temperature;
M	10.3.8. Specific lube oil consumption;
M	10.3.9. Combustion air requirements at full load;
M	10.3.10. Weight of the complete set;
M	10.3.11. Results of torsional vibration analysis;
M	10.3.12. Sound level at 10,20 30,40,50,60,70,80,90 and 100% loads at 100,125,160,200,250,315,400,500,630 and 800 Hz;
M	10.3.13. Original and two copies of Class Approval certificates for each generator set.
	11. SPARES
	11.1 The Contractor must supply:
M	11.1.1 One spare raw water pump;
M	11.1.2 One spare jacket water pump;
M	11.1.3 One spare fuel injector with high pressure pump this may be a single unit injector;
M	11.1.4 One spare fuel lift (or transfer) pump;
M	11.1.4 One spare Lubrication Oil pump;
M	11.1.5. One spare Jacket Water Heater;
M	11.1.6 One spare Turbocharger complete with housing;
M	11.1.7 Communication adapter cable(s) for each electronics connector that is used for data transfer;
M	11.1.8 One set of any specialty tools required;
M	11.1.9 Main bearing shells for one bearing complete with bolts (1 set);
M	11.1.10 One cylinder head complete with valves and injector sleeve (1 set);
M	11.1.11 Connecting rod bottom end bearing shell complete with bolts (1 set);
M	11.1.12 Gudgeon pin with bush (1 set);
M	11.1.13 Piston rings, for one cylinder (1 set);
M	11.1.14 High pressure fuel pipe of each size and shape fitted, complete with couplings (1 set);
M	11.1.15 12 primary and 12 secondary filters.

	12.	**WARRANTY**
M/R* Grid 29	12.1	The Contractor must provide a minimum of one (1) year warranty from the date each generator becomes operational. The operational date will commence within 12 months from date of delivery. Note: For the purpose of installation, the engine and alternator may need to be separated. This practice must not void the manufacturer's warranty.
M/R* Grid 30	12.2	The Contractor must indicate if warranty requires Field Service Representative installation and commissioning.
	12.3	The Contractor detail what the separation and re assembly of the alternator and generator procedure is, and what requirements must be met to maintain the Warrantee in good standing after this separation and re-assembly.