

**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 HVAC UNITS	
Solicitation No. - N° de l'invitation F2599-145014/A	Date 2014-05-02
Client Reference No. - N° de référence du client F2599-145014	
GETS Reference No. - N° de référence de SEAG PW-\$\$ML-035-24467	
File No. - N° de dossier 035ml.F2599-145014	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2014-06-17	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
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: Tinkess, Dianne	Buyer Id - Id de l'acheteur 035ml
Telephone No. - N° de téléphone (819) 956-0178 ()	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

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PART 1 - GENERAL INFORMATION

1. Security Requirement

There is no security requirement associated with this bid solicitation.

2. Requirement

The Contractor must provide One (1) new HVAC unit for the main deck with an option for a second new HVAC unit for the boat deck in accordance with Annex "A" - Specification.

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.

4. Trade Agreements

"The requirement is subject to the provisions of the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT)."

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 (2014-03-01) 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.

2.1 Delivery

Delivery is required by 1 August, 2014.

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than **seven (7)** 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 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.

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 (2 hard copies)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard copy)

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

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

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

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

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

Section I: Technical Bid

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 Applicable Taxes must be shown separately.

1.1 Exchange Rate Fluctuation

C3011T (2013-11-06), 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

Statement of Compliance

The Bidder must provide a Statement of Compliance for each article of the Annex A - Specification in its technical bid as per the table below.

Article No.	Specification	Compliant (Y/N)	Non-Compliant (Y/N)	Comments
1.1	Intent			
1.1.1	Spare Parts Availability			
1.2.1	Drawings			
1.2.2	Documents			
1.2.3	Regulations			
1.2.4	Standards			
1.3.1	Main Deck HVAC Unit			
1.3.2	Boat Deck HVAC Unit			
1.4.1	Electrical Control			
1.4.2	New HVAC Unit Scope of Supply			
1.5	Spare Parts Tools			
1.6	Documentation			
1.7	Approvals			
1.8	Delivery			

1.2 Financial Evaluation

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, FOB destination, Canadian customs duties and excise taxes included, including the optional unit.

2. Basis of Selection

- 2.1 A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

PART 5 - CERTIFICATIONS

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

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

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

1. Certifications Required Precedent to Contract Award

1.1 Integrity Provisions - Associated Information

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 Integrity Provisions - Bid of Standard Instructions 2003. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

1.2 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

1. Security Requirement

There is no security requirement applicable to this Contract.

2. Requirement

The Contractor must provide One (1) new HVAC unit for the main deck with an option for a second new HVAC unit for the boat deck in accordance with Annex "A" - Specification.

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 (2014-03-01), 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 _____.

4.2 Option to Purchase the HVAC Boat Deck Unit

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

All the optional deliverables must be delivered by the date agreed upon with contractor if the option is exercised.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Dianne Tinkess
Supply Officer
Public Works and Government Services Canada
Acquisitions Branch
Marine Systems Directorate
Place du Portage, Phase III -6C2
11 Laurier St.
Gatineau, QC
K1A 0S5
Telephone : 819-956-0178
Facsimile: 819-956-0897
E-mail address: Dianne.Tinkess@tpsgc-pwgsc.gc.ca

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

5.2 Project Authority

The Project Authority for the Contract is:

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone : ____ ____ _____
Facsimile: ____ ____ _____
E-mail address: _____

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority, however the Project 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.

5.3 Contractor's Representative

Name: _____
Title: _____
Address: _____

Telephone : _____

Facsimile: _____

E-mail address: _____

6. Payment

6.1 Basis of Payment - Firm Unit Prices

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices as specified in Annex B. Customs duties are included and Applicable Taxes are extra.

The Contractor agrees that, for the optional requirement, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

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 Method of Payment

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

7. Invoicing Instructions

Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions.
2. Invoices must be submitted on the supplier's own invoice form and must be prepared to show:
 - (a) The date
 - (b) Name and address of the consignee
 - (c) Item number, quantity, part number, reference number and description
 - (d) Contract number.
3. Invoices must be distributed as follows:
 - (a) The original and one (1) copy of all invoices must be forwarded to the appropriate consignee(s)
 - (b) One (1) copy must be forwarded to:
Fisheries and Oceans Canada
Accounting Hub
301 Bishop Drive
Fredericton, NB

E3C 2M6

(c) One (1) copy must be forwarded to the contracting authority.

4. Payment will only be made on receipt of satisfactory invoices duly supported by specific release documents and/or other documents called for under this document. Invoices are not be submitted prior to shipment of materiel.

5. If payment is to be made to an address other than the address on the cover page of the contract, it is to be clearly identified within the body of the contract as the "Remit to" address. This address should include the following:

Company name
Full Address
City
Province/State
Postal/Zip Code

8. Certifications**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.

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 name of the province or territory as specified by the Bidder in its bid, if applicable)

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 (2014-03-01) General Conditions - Goods (Medium Complexity);
- (c) Annex A, Specification;
- (d) Annex B, Basis of Payment;
- (e) the Contractor's bid dated _____ .

11. SACC Manual Clauses

B7500C (2006-06-16) Excess Goods
D9002C (2007-11-30) Incomplete Assemblies

Solicitation No. - N° de l'invitation

F2599-145014/A

Amd. No. - N° de la modif.

File No. - N° du dossier

035mlF2599-145014

Buyer ID - Id de l'acheteur

035ml

CCC No./N° CCC - FMS No/ N° VME

F2599-145014

12. Shipping Instructions - Delivery at Destination

Goods must be consigned to the destination specified in the Contract and delivered:

- a. Free on Board (Destination) common carrier _____ (*insert the place of destination*) for shipments from the United States government; or
- b. Delivered Duty Paid (DDP) _____ (*insert the named place of destination*) Incoterms 2000 for shipments from a commercial contractor.

ANNEX "A"
SPECIFICATION

CCGS Samuel Risley Main Deck and Boat Deck HVAC Units Procurement

Specification No: 771.13

Date: 2014-04-07

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1.0 CCGS SAMUEL RISLEY HVAC UNITS MAIN DECK & BOAT DECK

1.1 Intent

The Coast Guard has a requirement to replace the two existing HVAC units located on the main deck and boat deck on CCGS Samuel Risley. The Contractor shall supply one new HVAC unit for the main deck with an option for a second new replacement HVAC unit for the boat deck. Both units would be of similar capacity to the existing units. Existing units operate on R22 refrigerant. The new unit(s) shall operate using R410A refrigerant to meet new regulatory guidelines.

1.1.1 Spare Parts Availability

The HVAC units shall be new and of current manufacture and shall have a spare parts availability of a minimum of 15 years.

1.2 References

1.2.1 Drawings

Drawing Number	Drawing Name
161-300-01	General Arrangement
161-603-(1 to 8)	El. Power One Line Schematic

1.2.2 Documents

Reference Number	Document Name
	Honeywell Thermostat Manual
Table 3 – Physical Data	Ventec Manual page 5
Table 4 – Cooling Capacity	Ventec Manual page 5
Figure 3 – Unit Dimensions	Ventec Manual page 8
Figure 9 – CFM curve	Ventec Manual

1.2.3 Regulations

- Transport Canada TP127E – Ships Electrical Standard (Latest Version);
- Canada Shipping Act – Marine Machinery Regulations (Latest Version);

1.2.4 Standards

- National Electrical Manufacturer’s Association – Standard for NEMA Enclosures;
- ISO 7547 – Air-conditioning and ventilation of accommodation spaces on board ships – design conditions and basis of calculations, Latest edition
- Air Conditioning and Refrigeration Institute Standard 410 (latest edition) – Forced-Circulation Air-Cooling and Air-Heating Coils.
- ANSI/ASHRAE (Latest Edition) - American National Standards Institute Safety Standards for Refrigeration Systems.

- ANSI/ASHREA (Latest Edition) – Mechanical Refrigeration and Air-Conditioning Installations Aboard Ship, Standard 26-1996.

1.3 Details of existing equipment to be replaced

1.3.1 Main Deck HVAC Unit

Item	Description
Model & Type	Ventec – CBB120
Compressor capacity	2 x 5 ton
CFM Rating	4000
Motor HP	2 HP
Refrigerant	5lbs. -14 oz., R-22
Power Supply (voltage-phase-freq.)	600VAC-3-60
Blower RPM	700-950
Filters	4 x (16"x25"x1")
Overall Dimensions (H x W x D)	72-1/2" x 52-1/4" x 26-1/4"
Cooling type	Water
Cooling water flow rate	30 GPM

1.3.2 Boat Deck HVAC Unit

Item	Description
Model & Type	Ventec – CBB090
Compressor capacity	2 x 3-3/4 ton
CFM Rating	3000
Motor HP	1-1/2 HP
Refrigerant	4lbs. -10 oz., R-22
Power Supply (voltage-phase-freq.)	600VAC-3-60
Blower RPM	655-880
Filters	4 x (16"x25"x1")
Overall Dimensions (H x W x D)	72-1/2" x 52-1/4" x 26-1/4"
Cooling type	Water
Cooling water flow rate	22.5 GPM

1.4 Technical

1.4.1 Electrical Control

The Coast Guard wishes to utilize the existing electrical feed for the new sets. For this reason the new units must be of the same electrical load or less as the fitted ones.

The fitted HVAC units are fed from 600 volt AC, 3 Phase, 60 Hertz, 18 Amp circuit breakers on panel MCC #1 for the main deck unit and MCC #2 for the Boat Deck unit (Ref. Dwg 161-603-4&5).

All units are to be controlled with the existing controllers and only require the conventional 24Vac control voltage for compressor relays and any other controls required. The current controllers are Honeywell T775M2022 for each deck AC unit and the controllers also control the hydronic heating system through modulation. The AC units require the same thermostat connections as is typical with any HVAC system. Where the systems are split in two (Main Deck and Boat Deck) the two cooling systems need to be able to be controlled independently - like a lead and lag system. The Honeywell controller provides all logic for this control situation. The manual is included in references for guidance.

1.4.2 New HVAC Unit Scope of Supply

Each HVAC Unit set shall have the following mechanical & electrical characteristics as a minimum:

- Shall supply an HVAC unit of similar dimensions to the fitted units (please review reference material). Replacement units shall be approximately 3” shorter than the existing units in order to accommodate a new seating arrangement and deck coating under the unit. Therefore the new replacement units shall not exceed the following dimensions; 69-1/2” H x 52-1/4” W x 26-1/4” D.
- All piping connections to the new units shall be in the same locations as the existing units to provide seamless replacement and minimize plumbing onboard the vessel.
- Each unit shall operate using the existing power feed of 600VAC/ 3 phase/ 60 hertz on board the ship.
- All cabinets shall be constructed from double wall insulated panels.
- All cabinets shall be structurally secure and self-supporting.
- Cabinet construction to allow for access to the refrigeration plant and evaporator/fan space. This access shall be securely fastened to prevent vibration and easily removable for servicing. Cabinets shall use bolted type connections for assembly and disassembly. Due to the large amounts of vibration these units are exposed to onboard sheet metal screws are not adequate and shall not be used in the construction.
- The bottom of the cabinet shall be constructed of stainless steel sheet such that it forms a drain pan that is sealed to a 50mm depth. Refrigeration equipment shall be located above this drain pan such that any liquid does not contact the compressors, heat exchangers or refrigeration fittings.
- The cabinet air outlet shall be constructed to allow for the connection to the existing duct work fitted onboard the vessel (please review reference material). A flexible vibration and noise dampening connection shall be used between the unit and the existing ducting on board the vessel. Existing duct dimensions (11-7/8” x 13-1/8”).

- The fan unit fitted in the cabinet shall be capable of continuous service and fitted with a TETC 600 VAC, 3 phase, 60 hertz motor. Fans shall be belt driven where possible to reduce vibration and noise.
- Evaporators shall be equipped with drains pans that will allow for the collection of condensate at an angle up to 30 degrees from level in all directions.
- All condensate drain piping shall be well supported within unit for vibration and properly sloped to provide adequate drainage.
- All refrigeration equipment shall be supported for vibration isolation. All tubing shall be secured to allow for thermal expansion and contraction and chaffing prevention shall be applied.
- The refrigeration system(s) shall be provided with fittings that allow for charging, diagnostics and monitoring of the system. These fittings shall be located for ease of access and safety.
- New units shall be provided with HEPA air filters. Filters to be either washable re-usable type or filters consisting of a re-usable frame with which filter material can be cut and installed on the frames. Disposable filter material must be provided on rolls to help minimize storage space.
- The units shall be of equal or better cooling capacity to the existing HVAC units noted in section 1.3. The new units shall have the same air flow capacity as the existing units.
- The new units shall be provided with all safety devices required by current Federal and Provincial construction standards for air conditioning appliances.
- Each new unit shall be provided with a failure alarm output connection.
- New unit(s) shall be design and built suitable for marine use using acceptable marine practices.
- New unit(s) shall operate on R410A refrigerant.
- New unit(s) must be able to fit through doorways 25” wide x 54” high. Unit(s) can consist of modular components that can be assembled in situ. Modular components shall be designed to breakdown and reassemble on-site using suitable design and engineering practices to connect one sub-assembly to another.

1.5 Spare Parts and Tools

The Contractor shall supply a complete parts list for all items being supplied. From this list the Contractor shall identify consumable parts and those that perform a critical function and which should be carried as critical spares. Items that are readily available and off the shelf should be identified as such on the list.

Pricing for parts shall be included as part of the deliverables for the spares parts list.

1.6 Documentation (Reports/Drawings/Manuals)

Documentation shall be supplied in the following formats: 3 paper copies of all manuals and drawings. These shall be supplied on standard 8.5 by 11 inch letter format paper. Drawings shall be on standard ANSI sized paper and shall be concertina

folded and attached to the manuals. The Contractor shall also supply this documentation in electronic format on CD-ROM media that is not password protected. All manuals shall be in Adobe PDF format and all drawings shall be in AutoCAD 2010 or later format.

The Contractor shall provide:

- Product data including dimensions, weights, centers of gravity, capacities, certifications, component performance, electrical characteristics, casing construction details, wiring interconnections, gauges and finishes of materials.
- All technical information relevant to the product being provided, including but not limited to all the information shown in the schedules of this specification. It is the responsibility of the Contractor to highlight any variances that the equipment has with the requirements of this specification whether or not pre-approval has been obtained. Provide the information in the same measurement units as indicated elsewhere in this specification.
- Fan curves (not fan tables), with specified operating points clearly plotted.
- Coil selection worksheets, clearly showing proper consideration for altitude, air density, and glycol corrections. Indicate coil tube fin and casing construction.
- Filter information, including initial Air Pressure Drop (APD), final APD, dust spot efficiency, final dust holding capacity, filter media description, filter frame details, and filter removal details.
- Submit sound power levels for both air handling unit inlet, outlet and radiated at rated capacity. If unit exceeds sound power levels at scheduled conditions, manufacturer must provide sound attenuators and meet specified BHP.
- Submit electrical requirements for power supply wiring including wiring diagrams for interlock and control wiring, clearly indicating factory-installed and field-installed wiring.
- Submit manufacturer's recommended installation instructions.
- Submit operation and maintenance data. Include instructions for lubrication, filter replacement, motor and drive replacement, spare parts lists, and wiring diagrams.

1.7 Approvals

The Contractor shall provide proof of certification of the various components in the structure as required by the specification. Specific attention shall be given to the requirements for plan approval drawings as required under the various Schedules of the Machinery Construction and Inspection Regulations of the Canada Shipping Act.

1.8 Delivery

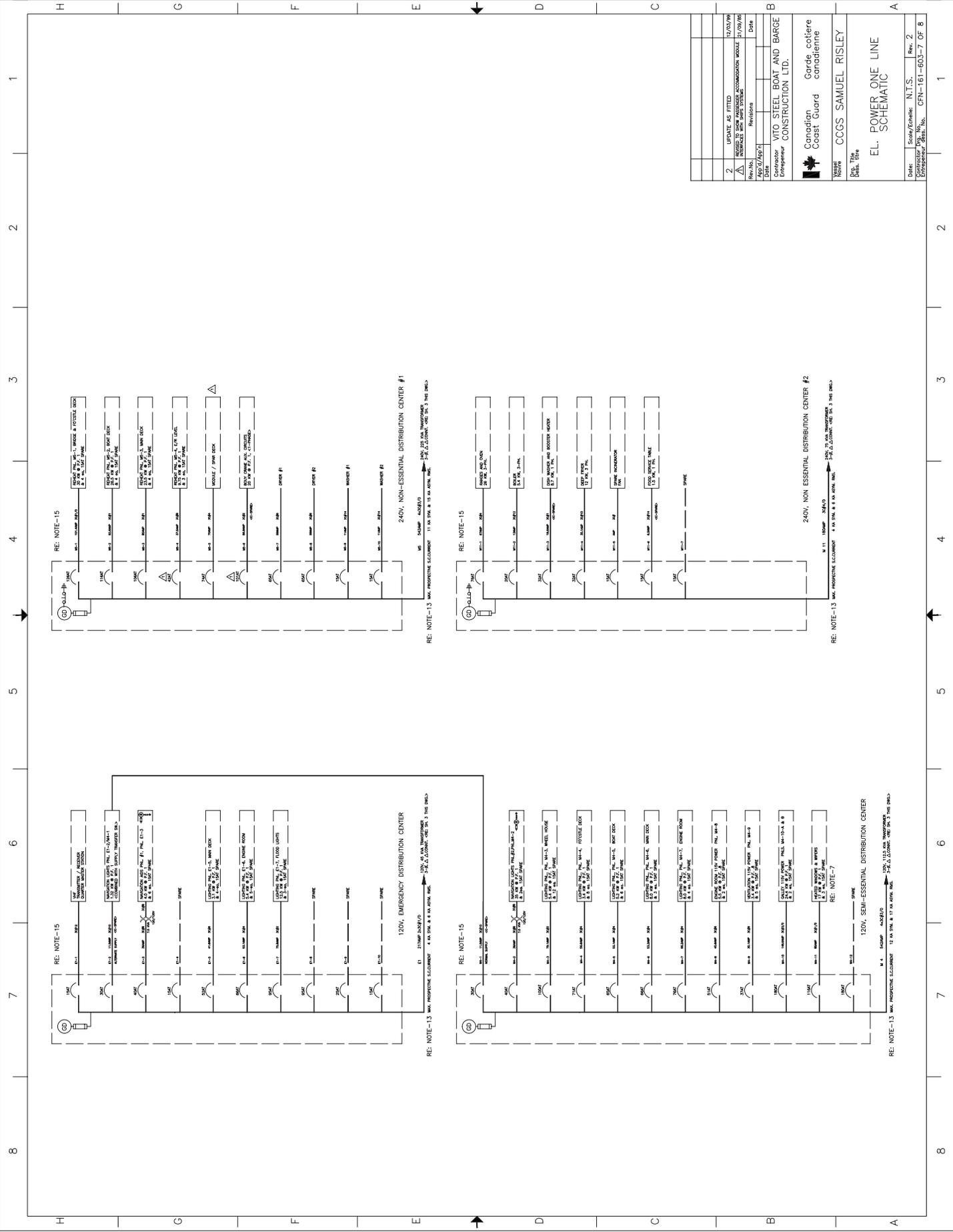
Location:

The Contractor is to deliver the HVAC Unit(s) to:
CCGS Samuel Risley
Canadian Coast Guard Base
28 Waubeek Street
Parry Sound, Ontario, Canada
P2A 1B9 Tel: (705)746-2196

ANNEX B
BASIS OF PAYMENT

Pricing should include Shipping Costs and Customs Duties. Applicable Taxes are extra.

Item No.	Description	QTY	Unit Price	Total Price
1	New HVAC Unit for the Main Deck as per Annex A - Specification	1		
2	Optional New HVAC Unit for Boat Deck as per Annex A - Specification	1		
SubTotal				



RE: NOTE-15

RE: NOTE-15

RE: NOTE-15

RE: NOTE-15

240V, NON-ESSENTIAL DISTRIBUTION CENTER #1

120V, EMERGENCY DISTRIBUTION CENTER

240V, NON-ESSENTIAL DISTRIBUTION CENTER #2

120V, SEMI-ESSENTIAL DISTRIBUTION CENTER

2	UPDATE AS FITTED	12/03/06
1	ISSUED TO OWNER ASSIGNED AS COMMERCIAL MODULE 21/09/06	
Rev. No.	Revisions	Date
App'd/Asp'd		
Date		

VITO STEEL BOAT AND BARGE
CONSTRUCTION LTD.

Canadian Coast Guard
Garde coteiere
canadienne

Scale/Enscale: N.T.S. Rev. 2
Contractor/Prep. No.: CFN-161-603-7 OF 8
Draw. Title: EL. POWER ONE LINE SCHEMATIC

Date: _____ Scale/Enscale: N.T.S. Rev. 2
Contractor/Prep. No.: CFN-161-603-7 OF 8
Draw. Title: EL. POWER ONE LINE SCHEMATIC



Rev. No.	Date	Description
4	10/03/99	UPDATE AS FITTED
3	7/06/95	AS FITTED
2	11/07/94	GENERAL REVISION
1	24/07/94	GENERAL REVISION

VITO STEEL BOAT AND BARGE
CONSTRUCTION LTD.

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Client Name: CCOS SAMUEL RISLEY
Contractor: CCOS SAMUEL RISLEY
Scale/Enscale: N.T.S.
Date: 10/03/99
Contractor Reg. No.: CFN-161-603-6 OF 8
Entrepreneur Reg. No.:
Scale/Enscale: N.T.S.
Date: 10/03/99
Contractor Reg. No.: CFN-161-603-6 OF 8
Entrepreneur Reg. No.:

MAX. PROTECTIVE I.C. CURRENT: 250A 50M & 200A 40M INAL.
RE: NOTE-12

600V, NON-ESSENTIAL MCC. #3

600V, NON-ESSENTIAL MCC. #3

600V, NON-ESSENTIAL MCC. #3

MAX. PROTECTIVE I.C. CURRENT: 250A 50M & 200A 40M INAL.
RE: NOTE-12

600V, NON-ESSENTIAL MCC. #2

600V, NON-ESSENTIAL MCC. #2

600V, NON-ESSENTIAL MCC. #2

MAX. PROTECTIVE I.C. CURRENT: 250A 50M & 200A 40M INAL.
RE: NOTE-12

600V, NON-ESSENTIAL MCC. #1

600V, NON-ESSENTIAL MCC. #1

600V, NON-ESSENTIAL MCC. #1

MAX. PROTECTIVE I.C. CURRENT: 250A 50M & 200A 40M INAL.
RE: NOTE-12

600V, NON-ESSENTIAL MCC. #1

600V, NON-ESSENTIAL MCC. #1

600V, NON-ESSENTIAL MCC. #1

MAX. PROTECTIVE I.C. CURRENT: 250A 50M & 200A 40M INAL.
RE: NOTE-12

600V, NON-ESSENTIAL MCC. #1

600V, NON-ESSENTIAL MCC. #1

600V, NON-ESSENTIAL MCC. #1

MAX. PROTECTIVE I.C. CURRENT: 250A 50M & 200A 40M INAL.
RE: NOTE-12

600V, NON-ESSENTIAL MCC. #1

600V, NON-ESSENTIAL MCC. #1

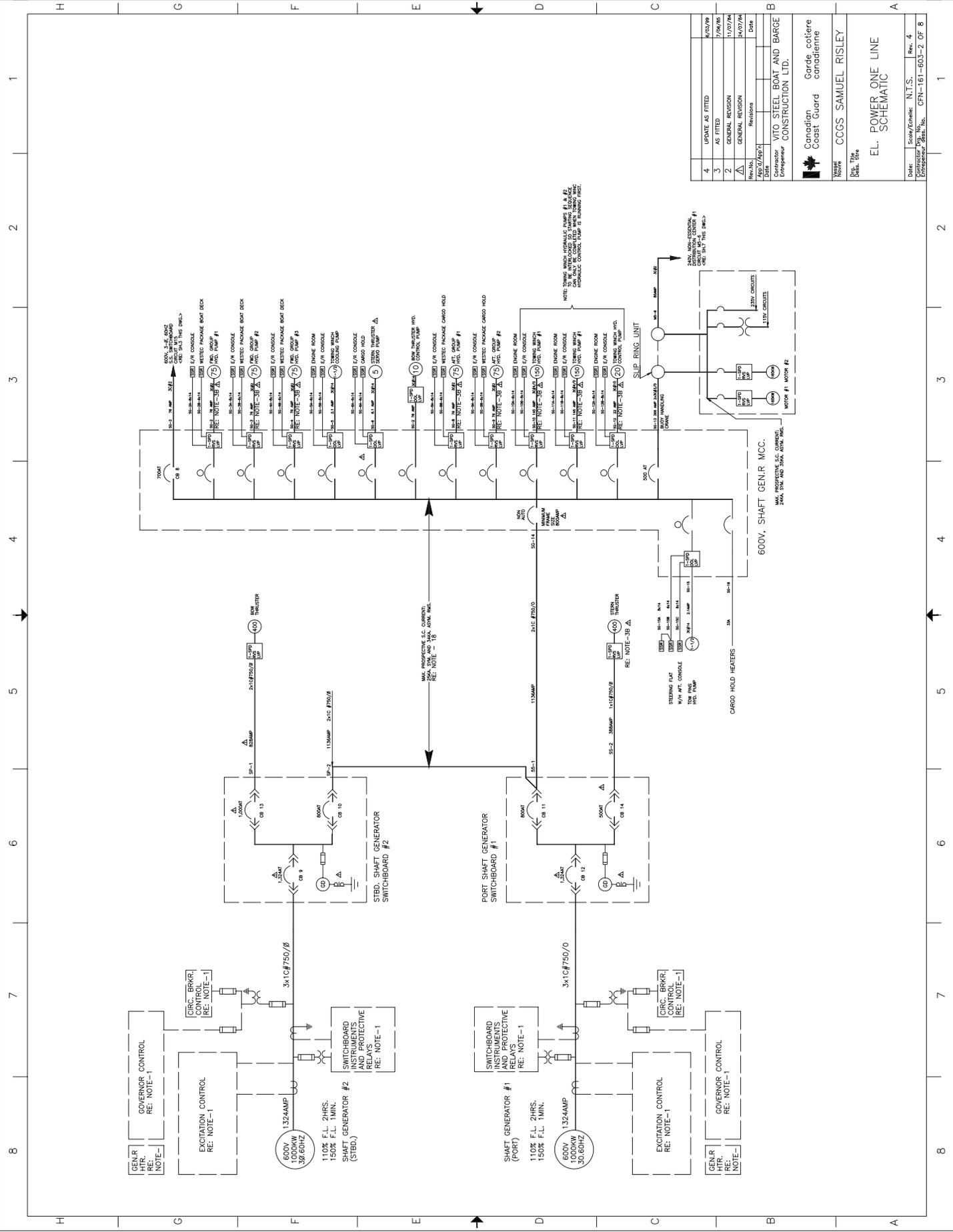
600V, NON-ESSENTIAL MCC. #1

MAX. PROTECTIVE I.C. CURRENT: 250A 50M & 200A 40M INAL.
RE: NOTE-12

600V, NON-ESSENTIAL MCC. #1

600V, NON-ESSENTIAL MCC. #1

600V, NON-ESSENTIAL MCC. #1



Rev. No.	Date	App'd/Aspl	Revisions
4	4/23/79		UPDATE AS FITTED
3	7/26/78		AS FITTED
2	11/07/74		GENERAL REVISION
1	24/07/74		GENERAL REVISION

VITO STEEL BOAT AND BARGE
 Construction
 Contractor
 Scale/Encl: N.T.S.
 Rev. 4
 Date: 4/23/79
 Scale/Encl: N.T.S.
 Rev. 4
 Date: 4/23/79

Canadian Coast Guard
 Garde cote
 canadienne
 CCOS SAMUEL RISLEY
 EL. POWER ONE LINE
 SCHEMATIC

600V, 1000KW, 30.6HZ
 110% F.L. 2HRS.
 150% F.L. 1MIN.
 SHAFT GENERATOR #2
 (STBD.)

600V, 1000KW, 30.6HZ
 110% F.L. 2HRS.
 150% F.L. 1MIN.
 SHAFT GENERATOR #1
 (PORT)

600V, 1000KW, 30.6HZ
 110% F.L. 2HRS.
 150% F.L. 1MIN.
 SHAFT GENERATOR #1
 (PORT)

600V, 1000KW, 30.6HZ
 110% F.L. 2HRS.
 150% F.L. 1MIN.
 SHAFT GENERATOR #2
 (STBD.)

600V, 1000KW, 30.6HZ
 110% F.L. 2HRS.
 150% F.L. 1MIN.
 SHAFT GENERATOR #2
 (STBD.)

600V, 1000KW, 30.6HZ
 110% F.L. 2HRS.
 150% F.L. 1MIN.
 SHAFT GENERATOR #2
 (STBD.)

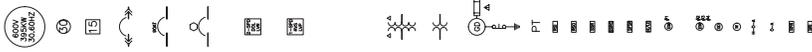
600V, 1000KW, 30.6HZ
 110% F.L. 2HRS.
 150% F.L. 1MIN.
 SHAFT GENERATOR #2
 (STBD.)

8		7		6		5		4		3		2		1	
NOTES & TECHNICAL REQUIREMENTS															
NO. SH. NO.	DESCRIPTION														
1	2 & 3 SWITCH BOARD INSTRUMENTATION, GENERATOR EXCITATION EQUIPMENT, CIRCUIT BREAKER AND PROTECTIVE RELAYING SHALL BE PER OWNER'S SPECIFICATIONS AND APPLICABLE REGULATIONS.														
2	GENERAL ALL CABLE FORMING PART OF THE 600V. POWER SYSTEM SHALL BE CANADA WIRE & CABLE TYPE "MARINE X - XBI" SPEC. NO. PES - 32 OR APPROVED EQUAL.														
3	A. SEQUENTIAL STARTING TO PREVENT OVERLOADING OF THE EMERGENCY GENERATORS IS REQUIRED FOR: EMERGENCY FIRE PUMP BILGE PUMP REDUCTION GEAR STANDBY L.O. PUMPS PORT AND STBD.														
4	B. SEQUENTIAL STARTING REQUIRED FOR: FWD. GROUP HYDRAULIC PUMP MOTORS TOWING WINCH HYDRAULIC PUMP MOTORS AFT. GROUP HYDRAULIC PUMP MOTORS STERN THRUSTER SYSTEM														
5															
6															
7															
8	WHENEVER S.S. GENERATORS REACH 105% RATED LOAD, THE FOLLOWING ITEMS SHALL BE SUBJECTED TO LOAD DUMPING: <ul style="list-style-type: none"> △ 600V. NON-ESSENTIAL MCC'S NO. 1, 2 & 3. △ 240V. TRANSFORMER - ACCOMMODATION HEATERS. 														
9	WHENEVER THE EMERGENCY GENERATOR FEEDS INTO THE S.S. SWITCHBOARD AND REACHES 105% RATED LOAD, CIRCUIT BREAKERS CB 2 & 3 SHALL OPEN AND DUMP THE S.S. LOADS.														
10	A LOW VOLTAGE SENSING DEVICE SHALL TRIP AND PREVENT CLOSURE OF CB 3 AT LOW VOLTAGE CONDITIONS OF 85% SYSTEM VOLTAGE <=450V> OR LESS. SUFFICIENT TIME DELAY SHALL BE PROVIDED TO PREVENT OF CB 3 ON MOMENTARY VOLTAGE DIPS. THE TRIPPING OF CB 3 SHALL CAUSE THE EMERGENCY GENERATOR TO START.														
11															
12	CIRCUIT BREAKERS FITTED IN 600V. MCC'S ARE NOT TO BE LESS THAN 300 KA SYM. RMS INTERRUPTING RATING DISPIE PROSPECTIVE SHORT CIRCUIT CURRENTS BEING SIGNIFICANTLY LESS.														
13	CIRCUIT BREAKERS FITTED IN 120V. AND 240V. MCC'S ARE NOT TO BE LESS THAN 18 KA SYM. RMS INTERRUPTING RATING DISPIE PROSPECTIVE SHORT CIRCUIT CURRENTS BEING SIGNIFICANTLY LESS.														
14															
15	EXCEPT NAVIGATION LIGHTS PANEL, ALL 120V. AND 240V. DISTRIBUTION PANELS ARE 3-PHASE / 3 WIRE AND SUPPLY SINGLE PHASE CIRCUITS UTILIZING TWO (2) POLE CIRCUIT BREAKERS. PHASE BALANCE TO BE IN ACCORDANCE WITH TP127.														
16	WHEN CB 5 <S.GEN.R#1> AND/OR CB 6 <S.GEN.R#2> ARE CLOSED, INTERLOCKING SHALL PREVENT THE OPERATION OF THE TOWING WINCH HYDRAULIC MOTORS. THE INTERLOCKING SHALL BE DEFEATED WHENEVER THE SHAFT GENERATOR MCC IS ENERGIZED FROM ONE OF THE SHAFT GENERATORS.														
17															
18	ALL AIR CIRCUIT BREAKERS SHALL HAVE AN INTERRUPTING RATING OF NOT LESS THAN 40 KA SYM. RMS. AND ALL SWITCHBOARD MOUNTING MOULDED CASE CIRCUIT BREAKERS SHALL HAVE AN INTERRUPTING RATING OF NOT LESS THAN 30 KA SYM. RMS.														
INDEX															
SHEET NO. 1	INDEX TECHNICAL REQUIREMENTS NOTES: QUALIFICATIONS REVISIONS														
SHEET NO. 2	SHAFT GENERATOR SWITCHBOARD #1 & #2 SHAFT GENERATOR MCC.														
SHEET NO. 3	SHIPS SERVICE SWITCHBOARD EMERGENCY SWITCHBOARD SHORE CONNECTION														
SHEET NO. 4	600V. ESSENTIAL MCC. #1 600V. ESSENTIAL MCC. #2 600V. EMERGENCY MCC.														
SHEET NO. 5	600V. SEMI-ESSENTIAL MCC. #1 600V. SEMI-ESSENTIAL MCC. #2														
SHEET NO. 6	600V. NON-ESSENTIAL MCC. #1 600V. NON-ESSENTIAL MCC. #2 600V. NON-ESSENTIAL MCC. #3														
SHEET NO. 7	120V. EMERGENCY DISTRIBUTION CENTER 120V. SEMI-ESSENTIAL DISTRIBUTION CENTER #1 240V. NON-ESSENTIAL DISTRIBUTION CENTER #1 240V. NON-ESSENTIAL DISTRIBUTION CENTER #2														
SHEET NO. 8	LIST OF SYMBOLS. MODES OF GENERATOR OPERATION AND INTERLOCKING REQUIREMENTS.														
REVISIONS															
2	UPDATE AS FITTED 6/03/99														
△	SHEET 7 OF 8 REVISED TO SHOW PASSENGER DISPOSITIONAL MOBILE INTERFACES WITH 21/09/97														
Rev. No.	Revisions														
Date	Date														
App'd/Asst	Date														
Prepared By	Date														
Checked By	Date														
Approved By	Date														
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Contractor/Proj. No.:	CFN-161-603-1	OF 8													
Entrepreneur/Proj. No.:															

MODES OF GENERATOR OPERATION AND INTERLOCKING REQUIREMENTS

LIST OF SYMBOLS

- GENERATOR - RATING AS SHOWN
- 3 Ø, 575V, MOTOR - 30 HP.
- 3 Ø, 575V, RESISTIVE LOAD - 20KW
- AIR CIRCUIT BREAKER, DRAWOUT TYPE, OPERATED BY REMOTE ENERGY FEEDBACK FROM SHIP'S SERVICE SWITCHBOARD
- MOLDED CASE CIRCUIT BREAKER, THERMAL MAGNETIC, 175 A @ 3-POLE
- MOLDED CASE CIRCUIT BREAKER, MAGNETIC ONLY, 3-POLE
- MOTOR STARTER, 3 Ø, 600 V, 2 SPEED DIRECT-ON-LINE RELEASE TO TRIP AT 80% VOLTAGE, AUTOMATIC RESET.
- MOTOR STARTERS, 3 Ø, 600 V, 1 SPEED AUTO TRANSFORMER WITH BLOCK-BOX LOW VOLTAGE PROTECTION, MANUAL RESET
- DISTRIBUTION POWER TRANSFORMERS WITH RATINGS AS SHOWN ON THIS DRAWING
- 3-PHASE FAULT DETECTOR WITH 3-UNIT CONNECTION
- THREE (3) PHASE EXCITATION TRANSFORMER <DIRTY OR EQUAL>
- GROUND FAULT DETECTOR WITH VEHIA AND ADJUSTABLE ALARM--PUSH TO TEST.
- PREFERENTIAL TRIP DEVICE
- RUN & STOP INDICATION ONLY.
- RUN & STOP OVERLOAD INDICATION ONLY.
- START STOP CONTROL WITH RUN INDICATION ONLY
- START STOP CONTROL WITH RUN , STOP & OVERLOAD INDICATION
- SLOW FAST & STOP CONTROL WITH RUN INDICATION
- TEMPERATURE CONTROLLER
- EMERGENCY STOP/START STATIONS WITH LOCKOUT CAPABILITIES
- INTERLOCK ALL ASSOCIATED EQUIPMENT TO ONE POINT.
- EMERGENCY SHUTDOWNS--SAME AS Ⓢ
- SHUTDOWN BUTTON
- MANUAL START CONTROL.
- HAND-OFF-AUTO SELECTOR CONTROL.
- OFF-AUTO SELECTOR CONTROL.
- STOP BUTTON WITH POWER AVAILABLE & RUN INDICATION ONLY
- STOP BUTTON WITH RUN INDICATION ONLY



NOTE: ALL LOCAL STOP/START STATIONS TO HAVE LOCKOUT CAPABILITIES

1. THE INTERLOCKING SHALL PERMIT SYNCHRONIZING AND PARALLELING AS FOLLOWS:
 - A. TWO (2) S.S. GENERATORS CONTINUOUS PARALLELED WITH ONE--ANOTHER.
 - B. TWO (2) S.S. GENERATORS PARALLELED WITH ONE--ANOTHER AND PARALLELED WITH ONE (1) OF THE TWO SHAF GENERATORS FOR TRANSFER OF LOAD ONLY.
 - C. TWO (2) S.S. GENERATORS PARALLELED WITH EMERGENCY GENERATOR FOR TRANSFER OF LOAD AS DETAILED BY SPECIFICATIONS. ⚠
 - D. TWO (2) S.S. GENERATORS PARALLELED WITH SHORE POWER TRANSFORMER FOR TRANSFER OF LOAD ONLY.
2. THE INTERLOCKING SHALL PREVENT PARALLELING AS FOLLOWS:
 - A. PARALLELING BOTH SHAF GENERATORS WITH ONE ANOTHER.
 - B. PARALLELING ANY OF THE SHAF GENERATORS WITH THE EMERGENCY GENERATOR.
 - C. PARALLELING ANY OF THE SHAF GENERATORS WITH THE SHORE POWER TRANSFORMER.
3. THE INTERLOCKING SHALL PERMIT AND LIMIT THE FLOW OF POWER AS FOLLOWS:
 - A. SHAF GENERATOR POWER TO:
 - MAIN SHIPS SERVICE SWITCHBOARD AND SHAF GENERATOR MCC.
 - EMERGENCY SWITCHBOARD
 - B. SHIPS SERVICE GENERATOR POWER TO:
 - MAIN SHIPS SERVICE SWITCHBOARD
 - EMERGENCY SWITCHBOARD
 - SHAF GENERATOR MCC.
 - C. SHORE POWER TO:
 - MAIN SHIPS SERVICE SWITCHBOARD
 - EMERGENCY SWITCHBOARD
 - SHAF GENERATOR MCC.
 - D. EMERGENCY GENERATOR POWER TO:
 - EMERGENCY SWITCHBOARD
 - MAIN SHIPS SERVICE SWITCHBOARD (NOT TO SHAF GENERATOR MCC.)
4. TO SATISFY THE REQUIREMENT OF PARAGRAPHS 1.2 AND 3 ABOVE, THE INTERLOCKING SHALL OPERATE AS FOLLOWS:
 - A. IF CB-1 IS CLOSED, CB-3 CAN ONLY CLOSE PROVIDING CB-7 IS OPEN AND SYNCHRONIZATION HAS BEEN ACCOMPLISHED.
 - B. CB-3 CAN CLOSE PROVIDING CB-1 IS OPEN, WHETHER CB-7 IS OPEN OR CLOSED.
 - C. IF CB-10 AND CB-11 ARE CLOSED, ONLY CB-9 AND CB-12 CAN BE CLOSED.
 - D. IF BOTH CB-10 AND CB-11 ARE CLOSED, CB-7 CANNOT CLOSE.
 - E. EXCEPT BY DELIBERATE OVER-RIDING OF "KEYED" INTERLOCK, CB-10 CANNOT CLOSE IF CB-11 IS CLOSED AND VICA VERSA.
 - F. IF CB-10 AND CB-11 ARE BOTH OPEN, CB-7 CAN BE CLOSED ONTO A "DEAD" BUS IN THE SHAF GENERATOR MCC.
 - G. IF CB-5 AND / OR CB-6 IS CLOSED AND EITHER CB-10 OR CB-11 IS CLOSED, CB-7 CAN ONLY BE PROVIDING SYNCHRONIZATION HAS BEEN ACCOMPLISHED.
 - H. CB-4 CAN ONLY CLOSE UPON SYNCHRONISM OF ONE OR TWO S.S. GENERATORS WITH SHORE POWER. CB-4 CANNOT CLOSE IF EITHER CB-10 OR CB-11 IS CLOSED.

4	UPDATE AS FITTED	12/03/96
3	AS FITTED	7/06/95
2	GENERAL REVISION	11/07/94
1	GENERAL REVISION	24/07/94
Revisions		
App'd/Asp'd		Date
VITO STEEL BOAT AND BARGE		
Contractor/Prep. No.:		
Contractor/Ent. No.:		
Scale/Encl.:		
Sheet No.:		
Title:		
Canadian Coast Guard Garde coteiere canadienne		
CCOS SAMUEL RISLEY		
EL. POWER ONE LINE SCHEMATIC		
Date:	Scale/Encl.:	N.T.S.
Contractor/Prep. No.:		Rev. 4
Contractor/Ent. No.:		CFN-161-603-8 OF 8