REQUEST FOR INFORMATION

CONTRACTING STRATEGY FOR VARIOUS REPAIRS

AND MAIN PROPULSION GENERATORS REFURBISHMENT

ONBOARD THE CCGS GRIFFON

This document is not a bid solicitation. This Request for Information (RFI) will not result in the award of any contract. As a result, potential suppliers of any goods or services described in this RFI should not reserve stock or facilities, nor allocate resources, as a result of any information contained in this RFI. Nor will this RFI result in the creation of any source list. Therefore, whether or not any potential supplier responds to this RFI will not preclude that supplier from participating in any future procurement. Also, the procurement of any of the goods and services described in this RFI will not necessarily follow this RFI. This RFI is simply intended to solicit feedback from industry with respect to the matters described in this RFI. Funding has not yet been approved for this project and the Solicitation and Contract Award may not be issued.

1 - Background

The Canadian Coast Guard (CCG) and the Department of Public Services and Procurement Canada (PSPC) intend to issue one or more solicitations for upcoming work onboard the CCGS Griffon. The work will take place during the summer of 2018 at one of CCG bases or at another public wharf; the final location is not yet determined. The vessel will be manned during the entire work period and will be under the care and custody of the CCG. The crew will be involved in self-maintenance and repair work. In addition to the work discussed under this Request for Information (RFI), other contractors will also be attending the vessel to complete work under their respective contracts, previously awarded in 2017. More specifically, those contracts will be aimed at the windlass control system and the replacement of wheelhouse windows. The work period is anticipated to last 3 months.

2 – List of General Ship Repair Items

The following list is a draft of intended work and maintenance items. They are typical of ship repair specifications and require a competent and experienced ship repairer to complete them.

- Services, including providing a crane for multiple contractors
- Bilge Cleaning (*engine room, propulsion motor room, shafts compartment*)
- Engine Room Travel Rails and Lifting Anchors (*related to generator removals /installations, need to recertify rails and supply anchors*).
- 3 Watertight Door System Overhauls (*Survey Item, pumps, rams, pressure switches, make Walz & Krenzer Inc., Rochester, N.Y*)
- Replacement of Poop Deck Carpeting (*8 cabins*)
- Overhaul of Miranda Davit Control valve (*Palfinger FSR, make Schat Harding*)
- Overhaul of Propulsion Motor and Generator Coolers (*Survey Item*)
- Overhaul of Propulsion Motor Blowers (*Survey Item, see Appendix A*)
- HIAB Seacrane 200 (*Survey Item, HIAB Seacrane model # 200SC*)
- HVAC Software and Controls Replacement (*make Carrier Comfortview Ver. 3.0, requires replacement of computer, software and associated hardware*)
- Annual Fire System Inspection (*Survey Item, need Kidde and Notifier FSRs*)
- Annual Refrigeration Leak Tests and Dairy Room Evaporator Replacement (*Survey Item, need certified technician*)

3 – List of Regular and Large Electrical Component Items

The following list is a draft of intended electrical work and maintenance items. Some are routine survey items while others are larger and complex items. Certified and experienced electrical contractors familiar with integration measures will be required to complete them.

- Megger Testing of Electrical Circuits (*Survey Item, all distribution circuits in accordance with CSA*)
- Propulsion Overcurrent Protection System (*Survey Item, see Appendix A*)
- Propulsion System Inspection (*Survey Item, see Appendix A*)
- Ship's Circuit Breakers (*Survey Item, see Appendix A*)
- Replacement of Propulsion Generator Power Cables (*See Appendix A*)
- Survey of Propulsion Motors (*Survey Item, see Appendix A*)
- Replacement of Propulsion Motor Tacho-Generators (GE FSR for calibration in conjunction with the Propulsion System)
- Ship Service Generators (*Survey Item, see Appendix A*)
- Overhaul of Propulsion Generators (*See Appendix A*) *

<u>* Additional Notes:</u>
The Propulsion Generators were fabricated in 1968 by Westinghouse. Original Intellectual Property (IP) rights changed ownership. It is not known if IP rights are still applicable for the refurbishment. Refer to Appendix A for further technical details.

4 – Possible Procurement Strategies

<u>A – Two Solicitations – Two Contracts: One Main Ship Repair Contractor and One Main Electrical Contractor</u>

The Main Ship Repair Contractor would be responsible to complete the general work items listed under Point 2. In addition, the general contractor will be expected to plan, coordinate his work and mitigate scheduling and interference issues with other contractors. He will be expected to hold daily production meetings with other contractors and vessel owner representatives. If scheduling issues cannot be resolved, the arbitration role will be held by the Contracting Authority.

The Main Electrical Contractor will be responsible to complete all substantial electrical work items listed under Point 3, including the integration, the commissioning and completing sea trials for major items. He will be responsible for all electrical re-certifications in accordance with Canada Shipping Act 2001 and associated regulations. He will be expected to attend above noted daily production meetings with other contractors and vessel owner representatives and to collaborate in finding mitigation solution to schedule and interference issues.

B – <u>One Solicitation – One Contract:</u> One Main Contractor hiring one or more subcontractors

The Main Contractor may be the Main Ship Repair Contractor or the Main Electrical Contractor identified above and hiring subcontractors or FSRs as required to complete all work items. He will be expected to assume all above responsibilities.

5 – Request for Information

CCG and PSPC would appreciate receiving feedback from potential contractors on above Procurement Strategies. To that effect, it would be appreciated if you could provide your comments on the following questions.

1) Would you be interested to bid as a main ship repair contractor or as the main electrical contractor?

2) If so, would you prefer to bid under strategy A (two solicitations / two contracts) or under strategy B (single solicitation and contract)?
3) Would you prefer that the electrical work described under Point #3 be:

   A) Divided between a general contractor looking after the removal/reinstallation and supplying labor as required and, hiring a certified electrical business limited in an FSR role?

   Or
   B) Would you prefer that all the electrical work described under Point #3 be under the scope of work of the main certified electrical contractor?

   Explanation for your preferred method would be appreciated.

4) In your opinion, is a 3 month work period sufficient? If not, what would be a reasonable work period?
5) Once the onboard inspection of the four propulsion generators is completed, removed from the vessel and it has been determined that the generators' armature need to be rewound, how much time do you estimate it will add to the work period/schedule? A short schedule breakdown would be appreciated.
6) As the application of IP rights on the generators is not known, do you anticipate any issues with maintenance tasks or the armature overhauls?
7) Do you have any other comments or suggestions you would like to share on above noted strategies?

All responses received will remain confidential. They will only be used to define an appropriate solicitation strategy.

Please send your responses by email to the Contracting Authority named below. You may contact the Contracting Authority should you require any clarifications.

Appendix A contains additional technical details as well as General Arrangement and Machinery Arrangement drawings.

Note that Canada will not reimburse any respondent for expenses incurred in responding to this RFI. Respondents will have no claim for damages, compensation, loss of profit, or allowance arising out of providing comments in response to the RFI.

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Public Services and Procurement Canada
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APPENDIX A – ADDITIONAL TECHNICAL DETAILS

OVERHAUL OF PROPULSION MOTOR BLOWERS (SURVEY ITEM)

The Coast Guard requires to have the 4 propulsion motor blower assemblies overhauled in accordance with TCMS survey requirements.

Blower Data:

- Manufacturer: Westinghouse Centrifugal Fan, Sturtevant Div., Galt, Ont.
- Model: 3022 Special Blower
- Styles: 717D805 Fig. 1 and Fig. 5

Electric Motor Data:

- Manufacturer: General Electric Induction Motor, Peterborough, Ontario.
- Model: 117121
- Power: 10 HP
- Volts: 440, 3 Phase, 60 Hz
- Amps: 14.5
- Speed: 1750 RPM
- Service Factor: 1.0
- 600C Rise Cont.
- CEMA Design: B, Type K, Frame 254DZ
- DE Bearing: 40BC03J
- ODE Bearing: 35BC02J
- Marine Class B Insulation
- Original Motors; last overhauled in 2013

SURVEY OF PROPULSION MOTORS (SURVEY ITEM)

The Coast Guard requires the services of qualified electrical contractor to inspect the CCGS Griffon's 2 main propulsion motors in accordance with TCMS survey requirements.

Propulsion Motor Data

- Westinghouse 2000/2500HP, 833/900 VDC, 1910/2220 Amps.

SURVEY OF PROPULSION OVERCURRENT PROTECTION SYSTEM (SURVEY ITEM)

The Coast Guard requires the overcurrent protection system for the main propulsion system to be inspected in accordance with TCMS survey requirements. The scope includes the inspection of the 6 main circuit breakers for the propulsion system. It also includes the installation of calibrated shunts to allow the use of secondary injection for the testing of the circuit breakers as well as the replacement and calibration of hew propulsion motor current shunts.

Main Circuit Breaker Data

- Manufacturer: ITE
- Type: FB-20
- Frame Size: RMV-1000VDC, 2000A
- Serial Numbers: 20-302 through 20-307
- Westrip DC-2000 trip units, S/N 22015 through 22020.

PROPULSION SYSTEM INSPECTION (SURVEY ITEM)

The Coast Guard requires the services of a GE manufacturer's representative to inspect and survey the CCGS Griffon's Propulsion Control System in accordance with CSA survey requirements. The scope involves the survey of all propulsion system components such as the 3 motor exciters, 5 propulsion generator exciters, communications networks and the main PLC's used for control. There is also a requirement to calibrate the new shaft tachometers as well as the system shunts and SVIA current/voltage isolators and attenuators.

Propulsion Control System

- Item 3E022 Port Outboard Propulsion Generator Exciter GF 2000.
- Item 3E023 Port Inboard Propulsion Generator Exciter GF 2000.
- Item 3E024 Starboard Inboard Propulsion Generator Exciter GF 2000.
- Item 3E025 Starboard Outboard Propulsion Generator Exciter GF 2000.
- Item 3E026 (duplicate 3E030) Propulsion Generator Spare Exciter GF 2000.
- Item 3E031 Port Propulsion Motor Exciter GM 2000.
- Item 3E032 Starboard Propulsion Motor Exciter GM 2000.
- Item 3E033 Propulsion Motor Spare Exciter GM 2000.

SURVEY OF SHIP'S CIRCUIT BREAKERS (SURVEY ITEM)

The Coast Guard has a requirement for the servicing, overhaul and testing of 5 ITE 600 Amp Frame circuit breakers as part of the 5 year TCMS survey requirements. The Scope of work will include the removal, transport, overhaul, bench testing, reinstallation of the circuit breakers and final testing with the switchboard.

Breaker Details:

- Manufacturer: ITE
- Type: K-600
- Frame Size: 600 Amp
- Breaker Type: Air/Draw-Out

REPLACEMENT OF PROPULSION GENERATOR POWER CABLES

The Coast Guard requires the replacement of the propulsion generator power cables leading from the 4 propulsion generators in the engine room to 4 DC propulsion breakers in the propulsion motor room. The scope of work includes removal of the old power cabling, dismantling any required wire way supports/cable clamps and bulkhead transits, removal of the sixteen existing cables (4 per generator), installation of sixteen new, marine class approved replacement cables that are contractor supplied, replacement of the four bulkhead transit systems at Frame 37, and terminations at either end of the cables.

Existing Cable Details

- 4 – Single conductor cables per generator rated for 1000 VDC and 800 amps each (16 total)
- Bronze wire braided exterior armor – OD measurement approx. 1.717"
- Heavy Duty Neoprene sheath, OD measurement approx. 1.672"
- Single conductor, tinned copper stranded wire, 61 strands, O.D. approx. 1.021"

Termination lugs – Thomas & Betts, bronze, 750-1000, 4 bolt, dual wire, set screw lugs.

OVERHAUL OF PROPULSION GENERATORS

The Coast Guard requires the performance of an initial inspection of the 4 propulsion generators, disassemble them, remove them from the vessel, perform a cleaning of the armatures, further inspection and if necessary an optional rewind on the 4 armatures. The stator assemblies require dismantling and complete refurbishment, including rewinding of the field and interpole assemblies. The generators must then be reassembled within the vessel, new brush gear installed and a full assemble, set-to-work and final functional testing must be carried out. The work is part of the necessary inspection requirement of TCMS.

Equipment Data

Manufacturer: Westinghouse Canada, Hamilton Plant, year 1968.

Ratings as per generator nameplates:

- Continuous - 1032 kW, 833 V, 1238 A, 750 RPM,
- 2 Hour - 1290 kW, 900 V, 1432 A, 750 RPM, 85°C Rise
- Wound: Shunt Stabilized
- Excitation: Separate
- Excitation Volts: 206
- Original Insulation Class: B
- Serial Numbers:
  #1, Port Outboard, SN 4-1S5108
  #2, Port Inboard, SN 3-1S5108
  #3, Starboard Inboard, SN 2-5S108
  #4, Starboard Outboard, SN 1-5S108

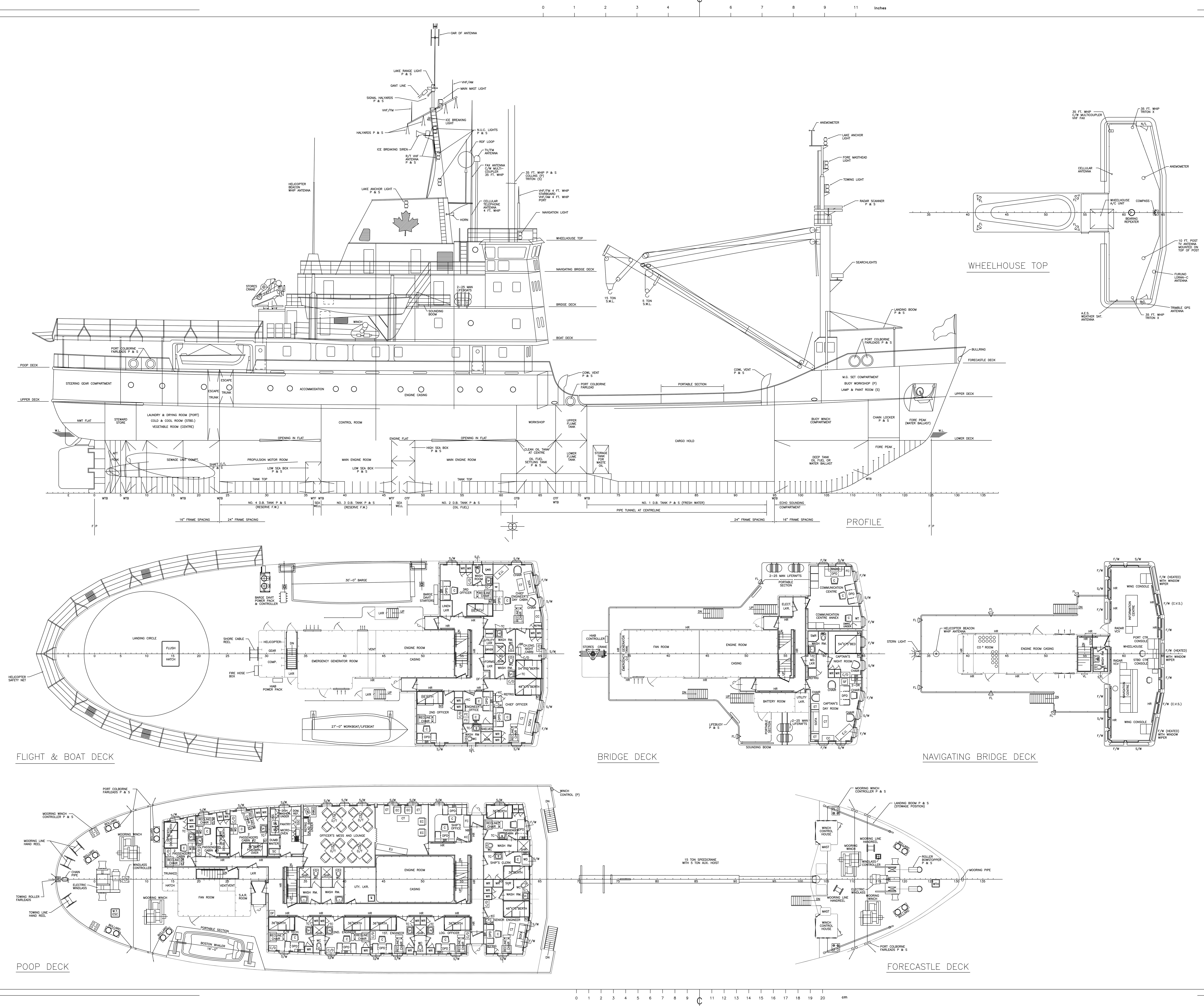
SHIP SERVICE GENERATOR SURVEY WORK (SURVEY ITEM)

The Coast Guard requires the services of a Caterpillar manufacturer's representative to perform a 5 year survey (TCMS Survey) on the three Caterpillar 3406C ship service generators. The original supplier was Toromont. This work includes the in-frame overhaul and survey of ship service diesels #2 and #3 as well as the dismantling, cleaning and inspection of all 3 alternators.

Additionally, the automatic voltage regulators must be set-up to achieve optimum load sharing, reactive power, stability and response to load variances both in parallel and alone on the bus.

Equipment Data:

Diesel Engine Model	3406C
Serial Number	#1SS01190 / #1SS01191 / #1SS01188
Arr. No.	177-8876
Speed	1800 RPM
Generator Model	SR4B - 450S Frame 10 wire, Wye, Series
Arr. No.	231-2734
Year	2003
Serial Number	9FF03187 / 9FF03188 / 9FF03186
Voltage	460V
Amps	502A
Excitation	29 V, 5.6 A
Insulation	Class H
Phase/ Freq./P.F.	3 phase/60 Hz/0.8
KVA	400 KVA
Kilowatts	320 KW
AVR Model	VR6



REFERENCES

GENERAL NOTES

PRINCIPAL PARTICULARS:–

LENGTH O.A.	234'–0"
LENGTH L.W.L.	219'–9"
LENGTH B.P.	214'–0"
BREADTH MLD.	49'–0"
DEPTH MLD.	21'–6"
DRAFT (SUMMER F.W.)	15'–6 1/4"

LIST OF ABBREVIATIONS:–

AC	ARM CHAIR	O/M	OTTOMAN
BR	BOOK RACK	RS COMB	RADIO STEREO COMBINATION
B&R RACK	BOOK & RADIO RACK	REFRIG	REFRIGERATOR
BS	BOOK SHELF	S	SINK
C	DESK CHAIR	S/B	SIDEBOARD
CAB	CABINET	SC	STORAGE CABINET
CO	CLEAR OPENING	SD	SCREEN DOOR
COMP STA	COMPUTER STATION	SF	SAFE
CONTR	COUNTER	SHR	SHOWER
CC	COCKTAIL CABINET	SHLV	SHELVES
C/D	CHEST OF DRAWERS	SPD	SINGLE PEDESTAL DESK
CM	COFFEE MACHINE	SC	STEAM COOKER
CT	COFFEE TABLE	S/L	SIDELIGHT
CUP	CUPBOARD	SS	STAINLESS STEEL SINK
CVS	CLEAR VIEW SCREEN	SSC	STAINLESS STEEL CABINET
CW/D	COMPLETE WITH DRAWERS	S/W	SLIDING WINDOW
DF	DRINKING FOUNTAIN	T	TOASTER
DPD	DOUBLE PEDESTAL DESK	TC	TOILET CABINET
DR	DRYER	TWT	TYPE WRITER TABLE
D/T	DINING TABLE	UTY LKR	UTILITY LOCKER
DWR'S	DRAWERS	V	VANITY
DW	DUMB WAITER	VP	VEGETABLE PEELER
EC	EASY CHAIR	VC	VIDMAR CABINET
ECO	ELECTRIC CONVECTION OVEN	VT	VERTICAL TRUNK
EPR	ELECTRIC PROOFER	W	WASHER
ESC	ESCAPE	WB	WASH BASIN
ET	END TABLE	WC	WATER CLOSET
EU	ENTERTAINMENT UNIT	WD	WRITING DESK
FC	FILING CABINET	WR	WARDROBE
FM	FOOD MIXER	WT	WORK TABLE
FR	FRYER	WTB	WATERTIGHT BULKHEAD
FS	FOLDING SEAT	WTD	WATERTIGHT DOOR
FW	FRESH WATER	WTH	WATERTIGHT HATCH
F/W	FIXED WINDOW	WTG	WATERTIGHT GIRDER
GC	GARBAGE COMPACTOR	WTM	WATERTIGHT MANHOLE
GTD	GASTIGHT DOOR		
HFT	HOT FOOD TABLE		
HR	HANDRAIL		
HWT	HOT WATER TANK		
HWU	HOT WATER URN		
LKR	LOCKER		
KC	KEY CABINET		
MD LKR	MEDICAL LOCKER		
MS	MEAT SLICER		
NB	NOTICE BOARD		
NT	NIGHT TABLE		
NWT	NON WATERTIGHT		

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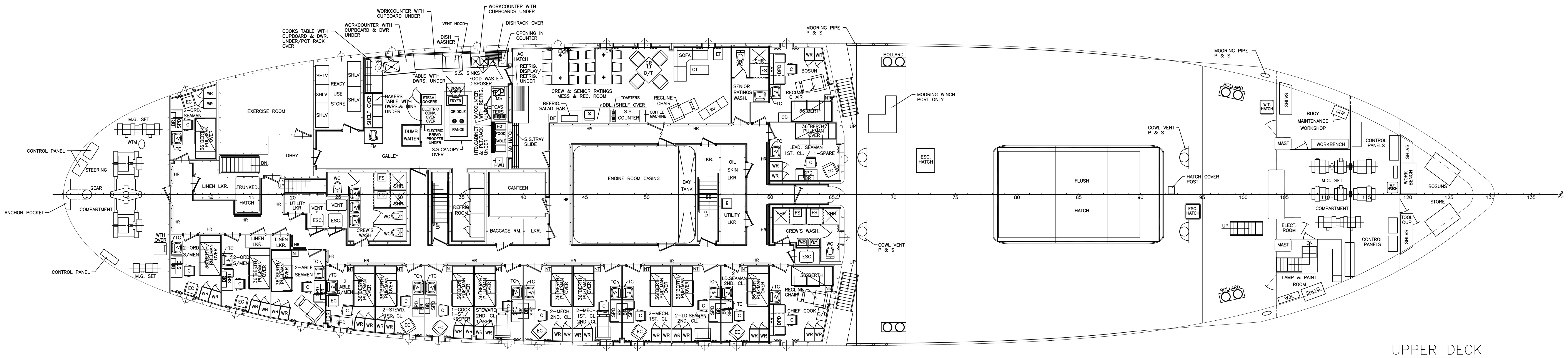
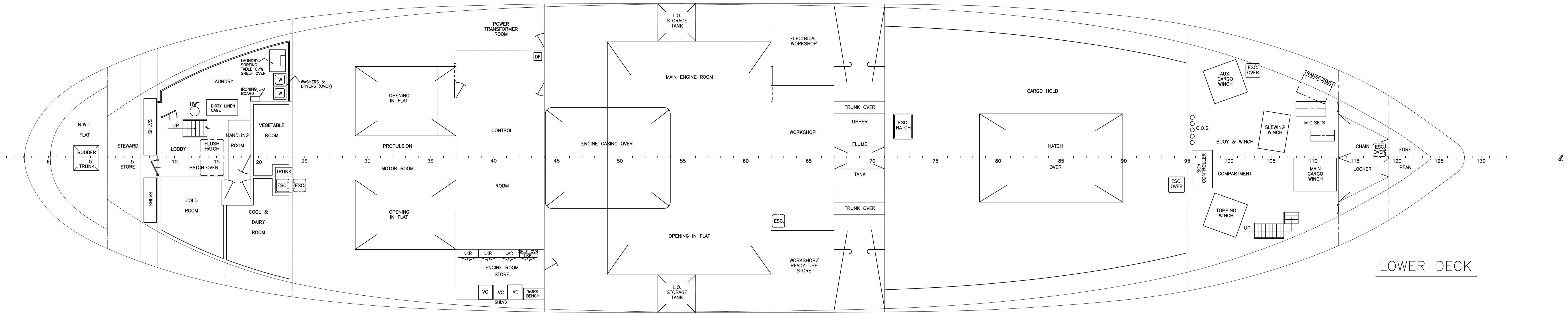
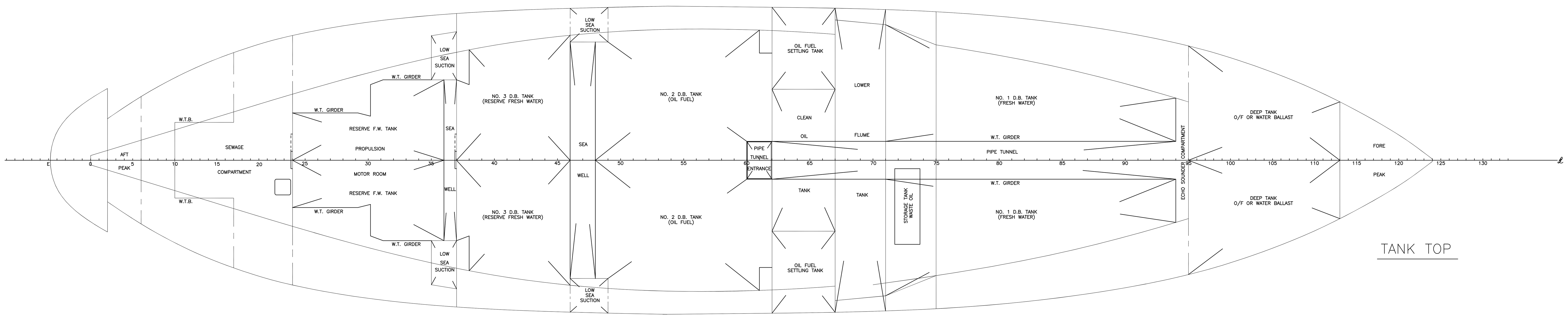


UPPER DECK



LOWER DECK



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REFERENCES

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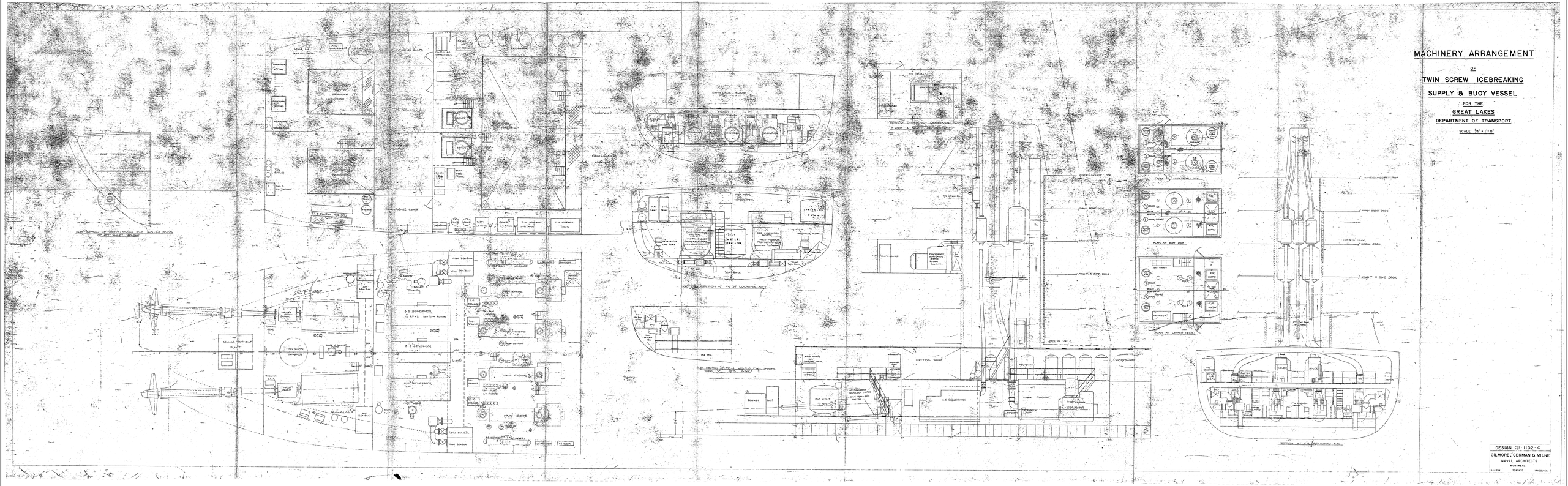

MACHINERY ARRANGEMENT

OF

TWIN SCREW ICEBREAKING

SUPPLY & BUOY VESSEL

FOR THE

GREAT LAKES

DEPARTMENT OF TRANSPORT

SCALE: 1/4" = 1'-0"

DESIGN CGE-1102-C

GILMORE, GERMAN & MILNE

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