

# **Annexe A**

## **CCGS Ile St-Ours ship repair 2020-21 F3065 – 202502**

Planned dates : February 22 to March 26

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## **G 1.0**      **GENERAL COMMENTS**

### **G 1.1**      **Information about the vessel**

#### **G 1.1.1**      **Details**

Name :	CCGS Ile St-Ours
Official Number:	806305
Class:	Specialized Buoy Tender
Year Built:	1985
Principle Dimensions:	23 m
Length:	23 m
Breadth, molded:	6 m
Loaded Draft:	1.6
Tonnage, displ:	92 t
Propulsion	Diesel Reduction Gear

#### **1.1.1.1**      **Equipement**

<b>Equipement</b>	<b>Make</b>	<b>Model</b>	<b>Serial No.</b>
Deck Crane 10 000Kg	Hiab	Sea Crane 180	SB 1660
Davit 454 Kg	N/A	Style potence	N/A
Craft	RIBO	450 EC NEO	22309/A2 EC

## G 1.2 References

### 10.1.A.1.1 Regulations

G 1.2.1.1 The latest version, in force at the time of signing the contract, of the laws, regulations, standards, publications and procedures mentioned below, must be used for reference. The Contractor shall ensure that all work performed in the specifications is performed in accordance with all federal and territorial standards and regulations. CCG procedures must be used as a guide if no other regulations take precedence.

<b>Fleet Safety and Security Manual (FSSM) procedures</b>	<b>Title</b>	<b>Included Yes/No</b> –
FSSM	Fleet Safety and Security Manual (latest edition)	yes
Specific to the vessel	Specific to the vessel: Asbestos risk appraisal report and management plan	no
Specific to the vessel	Specific to the vessel: Lead paint test report	no
<b>Publications</b>		
TP 127	Ships Electrical Standards	no
NFPA 306 2014	Standard for the Control of Gas Hazards in Vessels	no
TP 3669	Standards for Navigating Appliances and Equipment	no
TP 11469	Guide to Structural Fire Protection	no
TP 14231	Marine Occupational Safety and Health Program (Ships)	no
TP 14612	Procedures for Approval of Life-Saving Appliances and Fire Safety Systems, Equipment and Products	no
TP 4414 E	Guidelines Respecting Helicopter Facilities on Ships	no
IEEE 45	Institute of Electrical and Electronic Engineers, Recommended Practice for Electrical Installations on Shipboard	no
70-000-000-EU-JA-001	Specification for the Installation of Shipboard Electronic Equipment	no
IEC 60533	Electrical and electronic installations in ships – Electromagnetic compatibility	no
IEC 60945	Maritime navigation and radiocommunication equipment and systems – Methods of testing and required test results	no
<b>Publication – continued</b>	<b>Title</b>	<b>Included Yes/No</b> –
EPS Report 1/RA/2	Environmental Code of Practice for the Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems (Environment Canada)	no
NFPA 10	Standard for Portable Fire Extinguishers	no

18-080-000-SG-003 (formerly DFO/5884 – TP 12445E)	PAINT AND COATINGS STANDARD	no
<b>Standards</b>	<b>Title</b>	<b>Included – Yes/No</b>
CCG	CCG CAD Using AutoCAD <a href="http://intra.coast-guard.ca/folios/00922/docs/ccgststden.zip">http://intra.coast-guard.ca/folios/00922/docs/ccgststden.zip</a>	no
CCG	CCG Electronic Data Management Standard	no
CCG	Production of CCG trim and stability booklet MECTS No. 3350860	no
CCG	Colour Coding Standard for Piping Systems 30-000-000-ES-TE-001	no
CSA W47.1	Fusion Welding of Steel Company Certification, Section 2 (Certification)	no
CSA W47.2	Fusion Welding of Aluminum Company Certification	no
CSA W59	Welded Steel Construction (Metal Arc Welding)	no
CSA W59.2	Welded Aluminum Construction	no
ISO 9712:2005	International Standards on Non-destructive Testing	no
CT-043-EQ-EG-001-E	Welding Specification <a href="http://intra.coast-guard.ca/folios/00922/docs/WeldingSpecification-eng.pdf">http://intra.coast-guard.ca/folios/00922/docs/WeldingSpecification-eng.pdf</a>	yes
SSPC	The Society for Protective Coatings	no
ISO 8501-1:2007	Preparation of steel substrates before application of paints and related products	no
ISO 10816-1:1995	Mechanical vibration – Evaluation of machine vibration by measurements on non-rotating parts – Part 1: General guidelines	no
ASME Y14.100	<i>American Society of Mechanical Engineers Y14.100 – 2017 Engineering Drawing Practices – Nov. 14 2017</i>	no
<b>Regulations</b>	<b>Title</b>	<b>Included – Yes/No</b>
MOHSR	<i>Maritime Occupational Health and Safety Regulations</i>	no
CSA	<i>Canada Shipping Act</i>	no
Fire safety regulations	Marine Machinery Regulations (SOR/90-264)	no
Fire safety regulations	Vessel Fire Safety Regulations (SOR/2017-14)	no
Hull regulations	Hull Inspection Regulations (C.R.C., c. 1432)	no
<b>Regulations – continued</b>	<b>Title</b>	<b>Included – Yes/No</b>
<i>Canada Labour Code</i>	Canada Labour Code (R.S.C. (1985), c. L-2)	no
Workplace Safety and Workers' Compensation Commission – Workplace safety regulations for the province or territory in which the work is performed	<a href="https://www.ccohs.ca/oshanswers/information/wcb_canada.html">https://www.ccohs.ca/oshanswers/information/wcb_canada.html</a>	no

**G 1.2.2 Reference drawings**

G 1.2.2.1 The following Drawings are to be considered as Guidance Drawings as defined in the Drawings section of the General Notes.

Numéro de dessin	TITRE DU DESSIN	Nombre de feuilles
42-83-405	Deck crane arrgt	
	Schéma hydraulique Ile St-Ours	
	Liste des circuits électriques du St-Ours	
42-83-300	General arrangement	
	PRJ311_HC-17173_HLRM25.3S BV	
	HLRM 25-3S_RFQ3111_GA_01	
	basement.dwg	
	drawings.dwg	
06570-20	Plan incendie	
42-83-320B	Fire detection layout	
	Stability booklet	
	50VL-C Owner`s information manual and product data	
	S18-0920-PW_R02	
	S18-0920-PW-ELA_R02	

**G 1.2.3 Tanks**

G 1.2.3.1 Listed are the tanks found on board, their Location by frame number and capacity (Where available). These are to be used as reference only and will not supersede any specification.

<b>Tank Name</b>	<b>Location</b>	<b>Capacity in m<sup>3</sup></b>
Fresh water tank	Frames 6-8	1.461
Fore peak	Frames 41-bow	8.788
Foward fuel tank	Frames 39-41	6.455
Wing fuel tank Port	Frames 20-28	9.026
Wing fuel tank starbord	Frames 20-28	9.026
Sewage tank	Frame 5	0.8

G 1.2.3.2 Abbreviations make changes or deletions as required; add new abbreviations to standard clauses in General Remarks

ACM : Asbestos Containing Material	MCA : Matériaux contenant de l'amiante
CFM : Contractor Furnished Material and/or Equipment	MFE : Matériel fourni par l'entrepreneur
CLC : Canada Labour Code	CCT : <i>Code canadien du travail</i>
CSA – Association canadienne de normalisation	CSA : Association canadienne de normalisation (ACNOR)
CWB : Canadian Welding Bureau	BCS : Bureau canadien du soudage
DFO/CCG : Department of Fisheries and Oceans, Canadian Coast Guard	MPO/GCC : Pêches et Océans Canada, Garde côtière canadienne
FSR : Manufacturer's Field Service Representative	RD : Représentant détaché (du fabricant)
FSSM : Fleet Safety and Security Manual	MSSF : Manuel de sécurité et de sûreté de la flotte
GSM : Government Supplied Material and/or Equipment	MFG : Matériel fourni par le gouvernement
HC : Health Canada	SC : Santé Canada
IEEE : The Institute of Electrical & Electronic Engineers Inc.	IEEE : Institut des ingénieurs électriciens et électroniciens
MSDS : Material Safety Data Sheet	FS : Fiche signalétique
NDT : Non Destructive Testing	END : Essais non destructifs
OEM : Original Equipment Manufacturer	FEO : Fabricant d'équipement d'origine
OHS : Occupational Health and Safety	SST : Santé et sécurité au travail
PWGSC : Public Works and Government Services Canada	TPSGC : Travaux publics et Services gouvernementaux Canada
RO : Recognized Organization as defined by Canada Shipping Act.	OR : Organisme reconnu au sens de la <i>Loi sur la marine marchande du Canada</i>



SSMS : Safety and Security Management System	SGSS : Système de gestion de la sécurité et de la sûreté
TBS : Treasury Board of Canada Secretariat	SCT : Secrétariat du Conseil du Trésor du Canada
TA : Technical Authority -CCG Superintendent, Marine Engineering Western Region, or her delegated Representative	AT : Autorité technique – Surintendant de la GCC, Ingénierie navale, région de l'Ouest, ou son représentant délégué
TCMS : Transport Canada Marine Safety	SMTC : Sécurité maritime de Transports Canada
TI : Technical Inspector – CCG delegated	IT : Inspecteur technique – Délégué de la GCC
VCS : Vessel Condition Survey	EEN : Examen de l'état d'un navire
VLE : Vessel Life Extension	PVN : Prolongement de vie d'un navire
WCB : Workers' Compensation Board	CNESST : Commission des normes, de l'équité, de la santé et de la sécurité du travail
WHMIS : Workplace Hazardous Materials InTraining System	SIMDUT : Système d'inTraining sur les matières dangereuses utilisées au travail

### **G 1.3 Conditions and definitions**

G 1.3.1 These Project Requirements are provided to the Contractor to define the objectives, performance, standards and engineering requirements for the annual refit and life extension of the CCGS Ile St-Ours of the Canadian Coast Guard, Fisheries and Oceans Canada. This refit includes the replacement of the Sea Crane 180 as well as annual maintenance and certification work. The work will take place at the Burlington base between February 22 and March 26, 2020.

G 1.3.2

G 1.3.3 Translated with [www.DeepL.com/Translator](http://www.DeepL.com/Translator) (free version) It is the Contractor's responsibility to ensure that :

- a) the performance of the work hereunder complies with the stated and regulatory requirements;
- b) that all components and equipment supplied are deemed necessary to ensure the safe seaworthiness and operation of the vessel in accordance with the requirements for a vessel of this class;

**G 1.4      Various provisions****G 1.4.A      COVID-19**

Reference documents :

5323-2020-13	COVID-19 - Health Screening Questionnaire for Canadian Coast Guard Personnel and Visitors Accessing Canadian Coast Guard Facilities and Vessels
5404-2020-08	COVID-19 - Information Concerning the Use of Non-medical Masks at Work
6102-515	Issuance of Contractor Designation Letters during the COVID-19 pandemic

G 1.4.A.1 Due to the Covid-19 pandemic, the Contractor must comply with CCC 12-2020 "COVID-19 - Health Screening Questionnaire for Canadian Coast Guard Personnel and Visitors Accessing Canadian Coast Guard Facilities and Vessels" during an outbreak of an infectious disease such as Covid-19.

G 1.4.A.2 The Contractor must ensure that all its employees and subcontractors wear non-medical masks while on board the vessel. The Contractor must provide these masks to its employees and subcontractors. The Contractor must also provide hand sanitizer for use by employees and subcontractors.

G 1.4.A.3 Contractor Essential Service Letters will be issued in accordance with Procedure 515 if required for the prime contractor and any named subcontractors to facilitate travel and work.

**G 1.4.1      Occupational health and safety**

G 1.4.1.1 The Contractor and all subcontractors shall comply with occupational health and safety (OHS) measures in accordance with relevant federal and provincial regulations so that the Contractor's activities are conducted safely and without compromising the safety of any staff member.

G 1.4.1.2 When this document refers to the "Safety Management System," this means the Contractor's safety management system, which must be in effect for the entire time that the Contractor has material under its care and custody and must comply with the applicable OHS regulations and procedures.

a) For all work on the Canadian Coast Guard vessel, the Contractor shall meet or exceed the Safety Management System defined in the FSSM,

- unless the Contractor has proposed a comprehensive safety management system that has been reviewed and accepted by the Technical Authority.
- G 1.4.1.3 The Contractor, while working on the vessel while it is under the care and custody of the Canadian Coast Guard, shall follow the CCG Safety Management System:
- a) The Contractor and all of its representatives shall attend a vessel safety orientation session prior to the commencement of any work to familiarize the Contractor's employees with the vessel's hazards and its work protocol permit systems, as well as with the procedures for safety, risk prevention, hazard response and the safety assessments prior to the work. The Contractor will have access to an uncontrolled copy of the Fleet Safety and Security Manual.
  - b) The Contractor shall comply with the Fleet Safety and Security Manual (DFO/5737), the instructions for working aboard the vessel, and the relevant requirements of the Canada Labour Code during performance of the following types of work:
    - i. Work at heights;
    - ii. Entry into confined spaces;
    - iii. Gas-freeing before entering confined spaces and for hot work;
    - iv. Lockout/tagout;
    - v. Safety assessments before the work.
  - c) The Contractor and its representatives shall attend a vessel safety orientation session before beginning any work to familiarize the Contractor's employees with the vessel's hazards and its work protocol permit systems. During this session, CCG will review the procedures for safety, risk prevention, hazard response and safety assessment prior to the work. The Contractor will have access to an uncontrolled copy of the Fleet Safety and Security Manual.
  - d) For lockout/tagout procedures, in addition to the devices provided to the vessel's crew by the Chief Engineer, the Contractor shall provide locks and locking devices to its employees.
  - e) The Contractor shall comply with the land-based safety procedures and instructions for local facilities.
- G 1.4.1.4 The Contractor shall designate a specific person who is responsible for the management of workplace safety. The Security Manager must ensure that daily safety rounds are conducted, safety issues are identified, and safety precautions are maintained.

- G 1.4.1.5 Places that present a risk due to work included in the specifications must be secured by the Contractor. The Contractor shall clearly indicate these places by putting up posters to inform and protect all staff, in accordance with the applicable regulations.

#### **G 1.4.2 Lead paints and coatings**

- G 1.4.2.1 The Contractor shall not use lead paint.
- G 1.4.2.2 In the past, lead paint was used to paint CCG vessels. Consequently, some of the Contractor's processes, such as grinding, welding and burning, could release the lead contained in the coatings. The Canadian Coast Guard will provide copies of all available lead analysis results.

#### **G 1.4.3 Damaged paint and retouching**

- G 1.4.3.1 The Contractor shall, at a minimum, repair paint systems that have been altered by the indicated work. Paint systems must match those of the vessel and be applied in accordance with procedures recommended by the paint manufacturer.

#### **G 1.4.4 Asbestos-containing materials (ACM)**

- G 1.4.4.1 The Contractor shall use insulation that contains 0% ACM.
- G 1.4.4.2 The Contractor will receive, upon request, the most recent asbestos risk assessment report and the CCG Asbestos Management Plan.
- G 1.4.4.3 Handling of asbestos-containing materials must be performed by trained personnel or a company certified in asbestos removal, in accordance with federal, provincial/territorial and municipal regulations.
- G 1.4.4.4 The Contractor shall provide the TA with certificates of disposal for all asbestos-containing materials removed from the vessel to demonstrate that the disposal has been performed in accordance with the federal, provincial and municipal regulations in force.
- G 1.4.4.5 The Contractor shall provide an "Observation Report" containing concerns or intentions related to asbestos-containing materials that have not previously been specified. Before performing the work, the Contractor shall determine all materials that may contain asbestos. Approved work resulting from the Observation Report must follow the procedures for additional work.

**G 1.4.5      Confined spaces**

G 1.4.5.1      Access to confined spaces aboard the vessel during the contract period must comply with the Safety Management System determined at the meeting prior to the work. In addition to these requirements, the Contractor shall also perform the following tasks:

- a) Ensure that a qualified person issues a gas-freeing certificate for the spaces to be visited and display the certificate near the entrance to these spaces. Ensure that certificates specify "No danger for persons" or "No danger for hot work," as applicable.
- b) Provide the TA with a copy of all certificates produced, in accordance with the Documentation section of the General Remarks.

**G 1.4.6      Hot work**

G 1.4.6.1      All hot work performed under the contract must comply with the Safety Management System. In addition to complying with the requirements of the Safety Management System, the Contractor shall also, at a minimum:

- a) Certify that the confined spaces are "safe for hot work" in accordance with the Confined Spaces section of the General Remarks;
- b) Keep all portable combustible materials at a safe distance of at least two metres;
- c) Provide and install protective materials to prevent the spread of sparks and to protect electrical cables and other services;
- d) Provide and post fire watches in each space where welding, grinding or burning is performed on partitions, ceilings or decks, as well as in the space adjacent to this work;
- e) Provide appropriate fire extinguishers for fire watch members and ensure each member has been trained in the use of fire extinguishers. The fire watch shall monitor the designated location for a minimum of thirty (30) minutes after completion of the hot work. The Contractor shall record the fire watch monitoring time on all hot work permits, indicating the end time of the hot work and the time the fire watch left its post;
- f) Provide the TA with a copy of the hot work permits issued on site in accordance with the Documentation section of the General Remarks and named according to the task of the specifications generating the required work.

**G 1.4.7      Working aloft**

G 1.4.7.1      All work done aloft in the masting of the vessel during the maintenance or refit period must comply with the Safety Management System. Notices must be

posted to prevent operation of the radar while staff are working at heights on the mast or roof of the bridge.

#### **G 1.4.8 Electrical equipment**

G 1.4.8.1 When work is performed on electrical equipment, the Contractor shall lock the equipment in accordance with the Safety Management System and, at minimum, perform the following:

- a) Isolate the main power source and any other source of power to the equipment;
- b) Install locks and warning labels on the main power source and any other power source for switches/disconnectors attached to the equipment being serviced;
- c) Make sure there is no supply voltage to the terminals;
- d) Ensure padlocks and warning labels remain in place until all work is completed.

G 1.4.8.2 The TA must be notified of all work in progress.

G 1.4.8.3 All electrical installations and repairs must be performed in accordance with the latest versions of Transport Canada standard TP127E (Ships Electrical Standards) and IEEE 45 (Recommended Practice for Electric Installations on Shipboard). TP127 takes precedence over the IEEE standard.

#### **G 1.4.9 Workplace Hazardous Materials Information System (WHMIS)**

G 1.4.9.1 The Contractor shall provide the Technical Authority with Material Safety Data Sheets (MSDS) for all products that it and its sub-contractors provide and that are controlled in accordance with WHMIS. The MSDS must be presented in the formats requested in the Documentation section of the General Remarks.

G 1.4.9.2 All MSDS must be kept up to date in accordance with OHS procedures.

G 1.4.9.3 The TA must allow the Contractor to access the MSDS of all controlled products on board the vessel for all work items specified on the request.

**G 1.4.10 Smoking in the workplace**

- G 1.4.10.1 The Contractor shall ensure compliance with the *Non-smokers' Health Act*. The Contractor shall ensure that no one smokes aboard the vessel, including its employees or subcontractors and the employees of any subcontractor.

**G 1.4.11 Material and tools provided by the Contractor**

- G 1.4.11.1 The Contractor shall ensure that all replacement products, such as seals, gaskets, insulation, small hardware items, oils, lubricants, cleaning solvents, preservatives, paints, liners, coatings, etc., are compliant with the drawings, manuals and instructions of the equipment manufacturer.
- G 1.4.11.2 Where no particular item is specified or where a replacement must be made, the Contractor shall provide the TA with an Observation Report indicating the replacement or unspecified items. The Contractor shall give the TA details on the materials used and the grade and quality certificate of various materials before using them.
- G 1.4.11.3 The Contractor shall provide all equipment, devices, tools and machinery, such as cranes, scaffolding, trellising and couplings, required to perform the work under these specifications.
- G 1.4.11.4 The Contractor shall deliver all new equipment that it must provide to its facilities and store it there. Equipment supplied by the Contractor must be stored in a secure, environmentally-controlled space in accordance with the Equipment Storage section of these specifications.
- G 1.4.11.5 All tools must be provided by the Contractor unless otherwise specified in the technical specifications.

**G 1.4.12 Material and tools provided by the government**

- G 1.4.12.1 If the TA provides tools, the Contractor shall return them to the TA in the condition in which they were borrowed. Borrowed tools must be inventoried. The Contractor shall sign the inventory statement upon receipt of the tools and when they are returned to the TA.
- G 1.4.12.2 Government furnished equipment that is not specifically mentioned in the technical specifications must be sent to the Contractor and stored in accordance with the Equipment Storage section of these specifications. These activities must be described in the engineering change or additional work procedures. (PWGSC Form 1379).

**G 1.4.13 Storage**

G 1.4.13.1 Equipment (i.e., covers, hoods and other elements that may need to be removed and stored) must be stored in accordance with the storage instructions of the equipment manufacturer or supplier. The Contractor shall make these instructions available to the Technical Authority.

G 1.4.13.2 All equipment and items shall be stored so that they are easily accessible for inspection. No item shall be stored directly on the ground.

#### **G 1.4.14 Regulatory verifications and classification surveys**

G 1.4.14.1 All modifications and work performed shall be performed in compliance with the regulations of the classification society ABS. This requirement applies only to the CCGS Ile St-Ours under the present tender.

#### **G 1.4.15 Contractor inspections**

G 1.4.15.1 In collaboration with the TA, the Contractor shall coordinate an inspection of the condition and location of items to be removed before performing the indicated work or accessing an area to perform work.

G 1.4.15.2 The Contractor shall take a photo showing the condition of the item before removing it. Each photo must comply with the Documentation section of the General Remarks and be named in accordance with the section of the specifications that resulted in the removal of these items.

G 1.4.15.3 Prior to completing a task under these specifications, the Contractor shall allow the TA to verify that the work has been completed in accordance with the specifications. The Contractor shall therefore have all the photos, documents, reports and test plans that relate to the task that is deemed complete.

#### **G 1.4.16 Records of work in progress**

The TA may record work in progress in various ways, including using photos, videos, digital media and film.

#### **G 1.4.17 Access for maintenance, installation and removal**

G 1.4.17.1 [N/A]

#### **G 1.4.18 Assembly of components**

G 1.4.18.1 The Contractor shall ensure that during the installation of the specified equipment, the parts and equipment assembled are cleaned to remove stains, weld spatter or excess solder, filler metal, metal flakes or other foreign material that could interfere with the normal operation, function or appearance of the



equipment. This includes any particles that could dislodge or move during the expected normal service life of the equipment. All corrosive materials must be eliminated. This cleaning must take place before assembly of the equipment parts.

G 1.4.18.2 The Contractor shall replace damaged covers, hoods and components with new covers, hoods or components.

G 1.4.18.3 If the manufacturer does not provide the necessary information, the bolt and nut tightening torques specified in the SAE, ANSI or BS 1083 standards must be used.

#### **G 1.4.19 Equipment protection**

G 1.4.19.1 The Contractor shall take measures to ensure that the surfaces and components of equipment installed aboard the vessel are protected from damage, soiling and contaminants produced by the work.

G 1.4.19.2 Throughout the work under the contract, all electrical and electronic equipment and components must be protected against physical and internal damage and the effects of temperature or other adverse environmental conditions.

G 1.4.19.3 The Contractor shall protect equipment that may be damaged due to the movement of materials and equipment in the vicinity. The Contractor shall also protect the equipment from nearby sources of contamination including, but not limited to, burning, welding, spraying abrasives (sandblasting), grinding and painting.

G 1.4.19.4 All surfaces and all equipment, furniture or decorations damaged before acceptance must be returned to the condition they were in before the Contractor's work.

G 1.4.19.5 All openings of machines or systems must be equipped with full, well-fitting, solidly attached covers or plugs at all times while awaiting connections.

G 1.4.19.6 The Contractor shall obtain and follow the instructions of its sub-contractors regarding the special protective measures required for the equipment they provide during the work. These instructions shall be transmitted to the TA.

G 1.4.19.7 Protective devices including, but not limited to, plastic sheeting, flame retardant covers, heavy-duty cloths, wood stoppers, wooden enclosures and heating devices shall be used as needed.

G 1.4.19.8 The Contractor shall protect the vessel against the risk of infestation by vermin (insects, mammals and birds). If an infestation occurs during the contract

period, the Contractor shall bear the costs for extermination of the vermin prior to the vessel's departure and the end of the contract.

#### **G 1.4.20 Systems containing halocarbons**

G 1.4.20.1 All work on systems containing halocarbons must comply with the Federal Halocarbon Regulations (2003)(SOR/2003-289). These regulations can be consulted at the following Internet address: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-2003-289/page-1.html>

#### **G 1.4.21 Welding**

- a) In addition to section 7.16 Certification for Welding Standards – Contract, all welding and weld inspection work must be conducted in accordance with CCG's CT-043-eq-eg-001 Welding Specification. This document will be delivered to the Contractor within 48 hours of a written request to the TA.
- b) The standards governing welding of material less than 3 mm thick must meet the requirements of CCG's CT-043-eq-eg-001 Welding Specification. For materials over 3 mm thick, the Contractor shall comply with the following requirements:
- c) For structural steel over 3 mm thick, welding must meet the requirements of CSA W47.1 and W59, except for the modifications specified in CCG's CT-043-eq-eg-001
- d) For structural aluminum over 3 mm thick, welding must meet the requirements of CSA W47.2 and W59.2, except for the modifications specified in CCG's CT-043-eq-eg-001.
- e) For structural stainless steel over 3 mm thick, welding must meet the requirements of CSA W47.1 and AWS D1.6 and the requirements in CCG's CT-043-eq-eg-001.

#### **G 1.5 Documentation**

##### **G 1.5.1 Text documents**

G 1.5.1.1 All text deliverables must be accompanied by a PDF file containing the complete document. The Contractor shall perform quality control to verify that the content exactly reproduces the content and formatting of the master document file. In case of amendments, a second PDF file containing only the amended pages must be provided.

- G 1.5.1.2 Further guidance is provided in Canadian Coast Guard specification CA-0140-00-NU-TD-002, Electronic Technical Data Deliverables.

### **G 1.5.2 Data collection**

- G 1.5.2.1 The Contractor shall provide all documentation resulting from specified deliverables in electronic and printed versions. According to the contractors' quality assurance program, two hard copies of each document are required in two separate books. An electronic copy of all documentation must also be provided to the TA in accordance with the formats described in this section of the specifications.
- G 1.5.2.2 All copies of documents resulting from specified deliverables will be referred to as "Data Collection."
- G 1.5.2.3 The Contractor shall provide the TA with all files created as part of the Data Collection before the contract is deemed to have been executed. The files must be in physical format (CD-ROM, DVD-ROM and USB key). Each task in the specifications must have its own folder, named according to the specification task. For example, "G1.0 General Remarks."
- G 1.5.2.4 All documents, information materials and reports resulting from additional work must also be included in the data collection.

### **G 1.5.3 File identification**

- G 1.5.3.1 [N/A]

### **G 1.5.4 Emails**

- G 1.5.4.1 CCG Project Lead: to be determined at contract award
- G 1.5.4.2 PSPC Procurement Officer: Refer to Contract

**G 1.5.5 File formatting**

- G 1.5.5.1 All documents, reports, test results, certificates or information obtained by the Contractor in paper format must be scanned into unprotected Adobe PDF formatted files that are searchable and named according to the File Identification section of these specifications.
- G 1.5.5.2 All reports, test results, certificates or raw data obtained by the Contractor in electronic format must be converted into unprotected Adobe PDF formatted files named according to the File Identification section of these specifications. The original copy and the converted copy must be included in the data collection.

**G 1.5.6 Photographs**

- G 1.5.6.1 All photographs obtained by the Contractor according to the requirements of the specifications must be provided in JPG format with a resolution of at least 640 x 480 and be named according to the File Identification section of these specifications.

**G 1.5.7 Measurements, calibrations and readings**

- G 1.5.7.1 Recorded measurements, calibrations and readings must all be accompanied by the signature of the person who made them and must be dated and digitized in electronic format for inclusion in the data collection.
- G 1.5.7.2 Unless otherwise indicated, the Contractor shall record dimensions in Imperial units with three significant digits and the equivalent in metric units.
- G 1.5.7.3 The Contractor shall provide the TA with valid and current control values and calibration certificates for all instruments used for the testing and trial plan to prove that the instruments were calibrated in accordance with the manufacturer's instructions. These documents must be included in the data collection for all tasks requiring measurements.

**G 1.5.8 Inspection and test records and certificates**

- G 1.5.8.1 Inspection or test records and certificates are referred to as deliverables in the tasks of the specification that requires them.
- G 1.5.8.2 Inspection or test records and certificates must be included in a separate section of the data collection and filed or organized by specification number.
- G 1.5.8.3 The Contractor shall maintain a complete and accurate record of all tests and trials performed on the vessel or on each piece of equipment. Before starting a

test, all relevant test sheets and documents, including workshop test data, must be completed and attached to the test program.

G 1.5.8.4 All test and trial data in paper and electronic format must be legible. If necessary, handwritten documents may need to be reproduced in an electronic medium to be acceptable. The original copy must be signed by the regulatory agency, the TA, the Contractor and, if applicable, the sub-contractors or FSRs who attended the tests. All data must be submitted to the TA in accordance with the Documentation section of the General Remarks.

G 1.5.8.5 The Contractor shall also provide the TA with the original copies of each certification document in an envelope bearing the name of the vessel and the words "Original Certificates."

## **G 1.6      Drawings**

G 1.6.1 The Drawings section of the General Remarks is intended to be used as a reference for minimum standards where specified deliverables must be drawings.

### **G 1.6.2      Reference drawings - 3 copies**

G 1.6.2.1 [N/A]

## **G 1.7      Manuals**

G 1.7.1 Each instruction manual and register shall be bound in a hard cover book with 3 "D" rings with snap lock mechanisms that can accommodate 8 1/2" x 11" sheets. Larger drawings and documents shall be folded in an accordion style. The following information should be printed on the cover:

- i) NGCC Ile St-Ours
- ii) Quotation identification number and contract number
- iii) Identification of equipment or systems
- iv) Equipment manufacturer
- v) Revision number and date

G 1.7.2 All sections of the manuals should have laminated tabs. Major equipment components should be subdivided into separate sections in the manuals.

G 1.7.3 All sections of manuals shall have laminated tabs. Major equipment components should be subdivided into separate sections in the manuals.

- G 1.7.4 A master index shall be located at the beginning of each binder and shall indicate all items included in each section.
- G 1.7.5 A list of the names, addresses and telephone numbers of contact persons associated with the equipment manufacturers should accompany the document for reference after project completion for maintenance and information management purposes.
- G 1.7.6 A copy of the final, approved version of the "conforming" drawings shall be included in the maintenance manual.
- G 1.7.7 The Contractor shall provide the Technical Authority with two hard copies of all manuals and data sheets in English and French (one copy of each) of the equipment items supplied by the Contractor prior to the end of the Contract.
- G 1.7.8 The Contractor must provide the Technical Authority with two copies of all manuals and data sheets on individual USB memory sticks, in PDF compatible format, prior to the end of the Work term.
- G 1.7.9 Operating manuals**
- G 1.7.9.1 Operating manuals shall include the following items :
- a) a general description of the sequence of operation of the equipment in English and French;
  - b) a detailed procedure to be followed for the commissioning of the equipment in English and French;
  - c) a wiring diagram of the installed equipment;
  - d) all relevant operating criteria for the equipment.
- G 1.7.9.2 When systems are accompanied by software or hardware, an operator's manual shall include the following elements :
- a) the complete software documentation manual specific to the system, and in digital format, so that Canada can review the programs without the need for the Contractor.
- G 1.7.9.3 The minimum software documentation shall include :
- a) system level diagrams describing the overall software or hardware layout;
  - b) functional specifications which must describe in detail the functional capabilities of the system and each software component;

- c) a list of project-specific programs, including any comments describing the specifics of the code functions;
- d) all lists, files, manuals and related documents shall be delivered and become the property of Canada.

G 1.7.9.4 The Contractor shall provide the number of copies, in hard copy and electronic format, of the operating manuals listed in section G.8.1.

#### **G 1.7.10 Maintenance manuals**

G 1.7.10.1 These manuals shall include the following :

- a) the manufacturer's maintenance instructions for each item of equipment to be maintained;
- b) the instructions shall include installation instructions, part numbers, parts lists, master drawings and exploded views with identification of all mechanical, electrical and electronic parts and the names of suppliers;
- c) a summary list of each item of equipment that requires lubrication, including the name of each item, the location of all lubrication points, the type of lubricant recommended and the frequency of lubrication;
- d) troubleshooting sections must be included for all equipment in the maintenance manual under a separate heading.

G 1.7.10.2 The Contractor shall provide, in hard copy and electronic format, the number of copies of the maintenance manuals specified in section G.8.1.

#### **G 1.8 Identification**

##### **G 1.8.1 Identification plates**

- G 1.8.1.1 All mechanical and electrical equipment must have nameplates. Each nameplate shall identify the equipment and shall show the manufacturer's name, type, serial number, model number, power rating and date of manufacture of the equipment.
- G 1.8.1.2 Any special precautions and instructions for maintenance or operation shall be recorded on the nameplate or on a separate plate attached to the equipment.
- G 1.8.1.3 All electrical equipment that operates on hazardous voltages and the compartments in which it is located must display a warning that a hazard exists and must specify the maximum system voltage.

G 1.8.1.4 Switchboards shall have nameplates indicating the following :

- a) The name of the switchboard;
- b) The manufacturer;
- c) Serial number (if applicable);
- d) Date of manufacture.

G 1.8.1.5 Each circuit breaker shall have a nameplate indicating the name and function of the circuit and the circuit breaker configuration. The contractor shall correctly identify the functions and name of each instrument, switch, etc. on the switchboard and mark with a red line the value of full load or normal operation.

G 1.8.1.6 Distribution panels shall have nameplates indicating :

- i) The space, service, apparatus or circuits controlled and the designation of the supply conductor.

G 1.8.1.7 Indoors, switchboards and motor control panels shall have nameplates to identify the bus bars and terminals. The phases of the bus bars shall be colour-coded.

G 1.8.1.8 Electrical enclosures where more than one electrical or electronic appliance or device is housed shall have a unique identification code for each appliance, and each appliance shall be labelled accordingly. Mounting drawings of the enclosures shall clearly show the mounting and identification codes of the appliances in the enclosure.

## **G 1.8.2 Labelling of cables**

G 1.8.2.1 Terminal strips and terminal wiring must be marked with circuit designations and must be treated as devices within the enclosures. The terminal strips must be labelled consecutively and in ascending order from left to right and top to bottom.



## **S 1.0**      **SERVICES**

### **S 1.1**      **GENERAL INFORMATION**

**S 1.1.1**      The purpose of this specification is to provide and connect the required services to the vessel as of the start of the drydocking and to disconnect them at the end of drydocking. These services will be supervised by the Chief Engineer and will remain connected throughout drydocking. The Contractor shall provide all the material and tools up to the connection points. It shall specify the cost of each service in its quote.

### **S 1.2**      **DOCKING**

**S 1.2.1**      [N/A]

### **S 1.3**      **MOORING LINES**

**S 1.3.1**      [N/A]

### **S 1.4**      **GANGWAYS**

**S 1.4.1**      [N/A]

### **S 1.5**      **POWER SUPPLY**

**S 1.5.1**      The CCG allows the Contractor to use the vessel's 120 V electrical power for the duration of the contract.

### **S 1.6**      **PROTECTION OF ROOMS DECKS AND ENGINE ROOMS**

**S 1.6.1**      The Contractor shall repair, at its own expense, any damage resulting from its actions during performance of its work and that may be attributed to its performance. Any material used in a replacement or repair must comply with the criteria for the material provided by the Contractor, as indicated above in the section Tools and Materials Provided by the Contractor.

**S 1.6.2**      The Contractor shall protect all equipment and all neighbouring areas against damage. Work areas must be protected against flooding and water leaks, debris from sandblasting, welding, etc. Temporary tarpaulins must be placed over work areas.

**S 1.7      HEATING**

**S 1.7.1**      Vessels are constantly heated. Extended power cuts must be made with the permission of the Chief Engineer or TA.

**S 1.8      WORKPLACE INSPECTIONS**

**S 1.8.1**      The Contractor shall coordinate an inspection of the condition and location of items to be removed with the TA and the IA before performing the specified work or accessing a location to work in it.

**S 1.9      FIRE PROTECTION**

**S 1.9.1**      [N/A]

**S 1.10      PROJECT FACILITIES**

**S 1.10.1**      Note that toilets on board vessels will be out of service. But that adjacent premises will be available.

**S 1.10.2**      A construction trailer may be accepted on the premises with the prior consent of the base authorities and the technical service but is not mandatory.

## **S 2.0      PRODUCTION CHART**

### **S 2.1      SCOPE**

**S 2.1.1**      The purpose of this specification is to provide the Owner's representatives with an exact schedule of the work and the work completion for the needs of the Canadian Coast Guard.

### **S 2.2      TECHNICAL DESCRIPTION**

**S 2.2.1**      The Contractor shall provide three bound copies of a detailed bar chart (Gantt chart) illustrating the planned schedule of work to refit the vessel. The chart shall show each task of the specification with its start date, duration, and planned and actual completion dates. An electronic version must also be sent to the TA. The Contractor shall also send a copy of the production chart to the contracting authority.

**S 2.2.2**      Any critical work path must be indicated, with the critical tasks that risk delaying the refit work if they do not comply with the planned work schedule. These may include labour problems or tasks that cannot be carried out at the same time as other tasks.

**S 2.2.3**      All inspections, tests and trials shall be recorded in the production chart.

**S 2.2.4**      In case of work affecting the critical workflow, the TA is to be notified immediately. Every effort shall be made to avoid delaying the vessel's refit. Regular quality assurance procedures shall be applied.

**S 2.2.5**      The bar chart will be updated each week and before each production meeting to illustrate actual progress of the refit and changes made to the completion date of each item. The Contractor shall include, in the chart updates, any special work requested on PSPC form 1379, indicating the impact that this additional work will have on the work schedule.

### **S 2.3      ACCEPTANCE OF WORK**

### **S 2.4      INSPECTION**

**S 2.4.1**      All work must be approved by the TA.

### **S 2.5      DELIVERABLE DOCUMENTS**

**S 2.5.1**      The selected Contractor shall provide three hard copies and an electronic copy of the bar chart to the vessel's TA within five (5) days of the contract award.

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**10.0 Safety and security**

**10.1 INSPECTION OF PORTABLE FIRE EXTINGUISHERS**

**10.1.A Identification**

10.1.A.1.1 The Contractor shall inspect all fire extinguishers and certify extinguishers whose certification date has passed.

**10.1.B References**

**10.1.B.1 Equipment data**

Portable fire extinguishers – see list.

**10.1.B.2 Drawings**

All drawings are indicated in the General Comments. The following drawings shall be considered as reference drawings, as defined in the Drawings section of the General Comments.

Drawing number	DRAWING TITLE	Number of sheets
	CCGS <i>Île Saint-Ours</i> – Portable fire extinguishers	

**10.1.B.3 Regulations and standards**

10.1.B.4 N/A

**10.1.C Statement of work**

10.1.C.1.1 The Contractor shall perform the following work:

10.1.C.1.2 Perform annual inspection of portable fire extinguishers and perform preventive maintenance. Inspection and maintenance of extinguishers shall be performed by a qualified representative. The certificate of inspection shall be issued by a supplier authorized by TC or a recognized classification society..

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- 10.1.C.1.3 Remove the fire extinguishers in a sequence such that the number of fire extinguishers taken off the vessel is never more than a third (maximum 5) of those that are on board. The Chief Engineer will determine the order in which the fire extinguishers must leave the vessel.
- 10.1.C.1.4 The price for hydrostatic testing or refills, if required based on the information provided in the table, will be negotiated using SPAC Form 1379..
- 10.1.C.1.5 Once the maintenance has been completed, return all the fire extinguishers to the vessel and put them back in place according to the Chief Engineer's instructions.

#### **10.1.D Proof of Performance**

##### **Inspection points**

- 10.1.D.1 All work shall be completed to the satisfaction of the Chief Engineer and the ABS inspector.

##### **Tests and trials**

- 10.1.D.2 Fire extinguisher testing shall be done in compliance with Transport Canada regulations.

##### **Certification**

- 10.1.D.3 The Contractor shall provide the Chief Engineer with two (2) hard copies of the maintenance certificates along with the originals. The Contractor shall also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

##### **Documentation**

- 10.1.D.4 The Contractor shall provide the Chief Engineer with two (2) hard copies of reports and checklists that explain in detail the work and modifications required. The Contractor shall also send an electronic copy of all reports to the Vessel Maintenance Manager.

##### **Training**

- 10.1.D.5 N/A

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### **10.2 ANNUAL INSPECTION OF THE FIXED FIREFIGHTING SYSTEM**

#### **10.2.A Identification**

- 10.2.A.1.1 The purpose of this specification is to perform maintenance on and certify the fixed firefighting system, engine rooms and galley on the CCGS *Île Saint-Ours*. Check the condition and connection of the copper lines of the switches and sirens.
- 10.2.A.1.2 The Contractor shall communicate with the Chief Engineer before undertaking the work for this item. This work must be performed in conjunction with the portable fire extinguisher maintenance without reducing the fire suppression capacity aboard the vessel.
- 10.2.A.1.3 The fixed firefighting system is a CO<sub>2</sub> system.

#### **10.2.B Reference**

Galley:	Bottle: 1 Brand: Range Guard Model: RG-2.5G Fuse and electric shut off
CO <sub>2</sub> system:	Brand: Pyrene Bottles: 2 x 100 lbs Bottles of retardants: 2 E/R and forward hold protection
E/R:	1 Gas alarm siren and 1 electric sound and light.
Forward hold	Electric sound and light
Electric ventilation louvres:	2 louvres

#### **10.2.B.1 Drawings**

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- 10.2.B.1.1 All drawings are indicated in the General Comments. The following drawings shall be considered as reference drawings, as defined in the Drawings section of the General Comments.

Drawing number	DRAWING TITLE	Number of sheets
06570-20	Fire plan	
42-83-320B	Fire detection layout	

- 10.2.B.2 **Regulations and standards**

- 10.2.B.3 **N/A**

**10.2.C Statement of work**

- 10.2.C.1 **The Contractor shall perform the following work:**

- 10.2.C.1.1 Provide authorized labour to test and inspect the vessel's CO<sub>2</sub> system as part of the annual inspection and certification of this system. The Chief Engineer must attend all tests.
- 10.2.C.1.2 Aside from the following tests, perform all tests required by the ABS inspector on site. In the estimate, the Contractor shall provide the cost of testing the alarms (indicator lights and sirens) on all devices, testing the cylinders, testing ventilation closure devices, and testing slack loops and cables.
- 10.2.C.1.3 Clean the pipes and pneumatic actuators with air pressure and ensure that they work properly. Pipes and nozzles must be free from obstruction.
- 10.2.C.1.4 Ensure that the alarm displays and sirens work properly.
- 10.2.C.1.5 Weigh each cylinder and record the results. At the end of the refit, the Contractor shall provide the Chief Engineer with copies of all certificates.
- 10.2.C.1.6 When the tests and inspections are completed, reassemble and reactivate the systems.

**10.2.D Proof of Performance**

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### **Inspection points**

- 10.2.D.1 All work must be completed to the satisfaction of the Chief Engineer, the Vessel Maintenance Manager and the TC inspector.

### **Tests and trials**

- 10.2.D.2 The Chief Engineer must be present for the system inspection and test.

### **Certification**

- 10.2.D.3 The Contractor shall provide the Chief Engineer with two hard copies of the maintenance certificates along with the original, and they must be for one year.

### **Documentation**

- 10.2.D.4 The Contractor shall provide the Chief Engineer with a printed hard copy of the report detailing the inspections, modifications, and repairs made before acceptance of this item. The Contractor shall also send an electronic copy of the report to the Vessel Maintenance Manager.

### **Training**

- 10.2.D.5 N/A

## **10.3 FIRE DETECTION SYSTEM**

### **10.3.A Identification**

- 10.3.A.1.1 This specification is for the annual inspection and certification of the fire detection system.

### **10.3.B References**

- 10.3.B.1 **Notifier, model MSF640**

- 10.3.B.2 **Drawings**



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10.3.B.2.1 All drawings are indicated in the General Comments. The following drawings shall be considered as reference drawings, as defined in the Drawings section of the General Comments.

Drawing number	DRAWING TITLE	Number of sheets
06570-20	Fire plan	
42-83-320B	Fire detection layout	

10.3.B.3 **Regulations and standards**

10.3.B.4 **N/A**

**10.3.C Statement of work**

10.3.C.1 **The Contractor shall perform the following work:**

10.3.C.1.1 The vessel shall be equipped with a Notifier fire panel, model MSF640, **and the contractor or its subcontractor shall hold the Notifier programming license.**

10.3.C.1.2 Schedule a visit from a TC inspector before the work begins.

10.3.C.1.3 Provide certified labour to conduct the annual inspection and certification of the fire detection system.

10.3.C.1.4 The fire detection system control panel is found on the port side of the wheelhouse.

10.3.C.1.5 All breaks and failures shall be addressed as additional work on form 1379.

**10.3.D Proof of Performance**

**Inspection points**

10.3.D.1 All work must be completed to the satisfaction of the Chief Engineer/Vessel Maintenance Manager.

**Test and Trials**

10.3.D.2 **N/A**

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#### **Certification**

- 10.3.D.3 The Contractor must provide the Chief Engineer with two hard copies of maintenance certificates along with the original. The Contractor shall also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

#### **Documentation**

- 10.3.D.4 The Contractor shall provide the Chief Engineer with a printed hard copy of the report detailing the inspections, modifications, and repairs made before acceptance of this item. The Contractor shall also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

#### **Training**

- 10.3.D.5 N/A

### **10.4 VERIFICATION OF THE VESSEL IN LIGHTSHIP CONDITION, INCLINING EXPERIMENT**

#### **10.4.A Identification**

- 10.4.A.1 The Contractor must perform a light ship survey and a vessel inclining to determine the new centre of gravity and vessel weight after completion of the work in this specification.

#### **10.4.B Reference**

#### **10.4.C Drawings**

<b>Numéro de dessin</b>	<b>Description</b>	<b>Numéro électronique</b>
	Stability booklet	

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### **10.4.D**    **Regulations**

10.4.D.1            TP 7301 - Stability, Subdivision and Load Line Standards (1975)

### **10.4.E**    **Technical**

#### **Stability**

- 10.4.E.1    Contractor must complete a lightship survey and vessel inclining to determine the new vessel centre of gravity and vessel weight. The lightship survey and vessel inclining must be completed in accordance with ABS TP 7301E standard. The vessel lightship survey and inclining must be witnessed by a ABS inspector.
- 10.4.E.2    Contractor must determine the new lightship weight, changes in centre of gravity and change in GM with new equipment installed. Contractor must supply the finding in a report in accordance with Section G1.5.
- 10.4.E.3    Contractor must complete a new stability booklet using the new Lightship, CoG and GM figures as determined in vessel inclining. The booklet must be completed in accordance with the CCG standard provided and use the same operating conditions as noted in the original booklet. Once complete the booklet must be submitted to ABS for review and approval. Contractor is responsible for providing a ABS stamped approved Intact Stability Booklet.

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## **11.0 Hull and related structures**

### **11.1 PROVIDE RATES FOR WELDERS AND METALLURGICAL WORK - OPTIONAL**

#### **11.1.A Identification**

11.1.A.1.1 Provide the price for a 50-hour block for various welding jobs during the work.

#### **11.1.B References**

##### **11.1.B.1 Skills data**

11.1.B.1.1 Welders shall possess the trade tickets indicated in G.1.4.5 and take the related safety precautions, and have a minimum of three (3) years of experience as a welder on ships.

##### **11.1.B.2 Drawings**

All drawings are indicated in the General Notes. The following drawings shall be considered as guidance drawings, as defined in the Drawings section of the General Notes.

Drawing number	DRAWING TITLE	Number of sheets
	N/A	

#### **11.1.C Regulations and standards**

CSA W59.2 welded aluminum construction.

International standard ISO 9712:2005 – Non-destructive testing.

CCG welding specifications CT-043-EQ-EG-001-E.

#### **11.1.D Statement of work**

11.1.D.1.1 Grinding, oxygen cutting and welding work on steel, aluminum (50 hours).

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- 11.1.D.1.2 Grommets, pipe repairs, supports, and so on, if necessary.
- 11.1.D.1.3 The Contractor must, in consultation with the TA, plan as much work as possible in the same time period to avoid wasting time in mobilization and demobilization.
- 11.1.D.1.4 All work shall be approved by the CCG Technical Authority and the hours signed by the TA or the Chief each day.
- 11.1.D.1.5 Materials used that were not supplied by the CCG will be processed with PSPC form 1379.

### **11.1.E Proof of Performance**

#### **Inspection points**

- 11.1.E.1 All work shall be completed to the satisfaction of the Chief Engineer, the TA, and the ABS inspector.

#### **Test and Trials**

- 11.1.E.2 Depending on the type of work required, a liquid penetrant test may be needed.

#### **Certification**

- 11.1.E.3 A copy of the welder's or welders' certification cards must be provided.

#### **Documentation**

- 11.1.E.4 Provide a detailed report on the work done by the welder(s).

#### **Training**

- 11.1.E.5 N/A

## **11.2 REPLACEMENT OF THE WORKSHOP FIRE DOOR**

### **11.2.A Introduction**

- 11.2.A.1 The 35-year-old door is difficult to close and does not meet safety requirements.

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- 11.2.A.2 The Contractor shall be responsible for providing and replacing the fire door and its frame, between the dining room and the downward workshop stairs.
- 11.2.A.3 The door shall be an A60 certified by a classification society, fitted with a fire-resistant seal in compliance with the regulations, and its automatic closing system shall be included.

### **11.2.B** **References**

- 11.2.B.1 Photos:

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11.2.B.1.2 The dimensions of the door are:

Door and frame	Dimensions in inches
Door height:	177 cm
Frame height:	200 cm
Door width:	76 cm
Frame width:	±50 mm
Wall thickness:	±50 mm

11.2.B.1.3 **Note:** The above mentioned measures are estimative. The Contractor will be responsible to confirm the measures himself following Contract award.

### 11.2.B.2 Drawings

11.2.B.2.1 All drawings are indicated in the General Notes. The following drawings shall be considered as guidance drawings, as defined in the Drawings section of the General Notes.

Drawing number	DRAWING TITLE	Number of sheets
	N/A	

### 11.2.C Regulations and standards

11.2.C.1.1 N/A

### 11.2.D Statements of work



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11.2.D.1.1 Carefully dismantle the ceiling in front of the door frame and remove the door and its frame. The mineral wool and the vapour barrier will have to be repaired or replaced if damaged.

11.2.D.1.2 Reinstall the door with its automatic closing system. The door must be watertight and close easily.

### **11.2.E Proof of Performance**

#### **Inspection points**

11.2.E.1 All work shall be completed to the satisfaction of the Chief Engineer, the TA, and the ABS inspector.

#### **Test and Trials**

11.2.E.2 N/A

#### **Certification**

11.2.E.3 The Contractor shall provide the standard door certificate.

#### **Documentation**

11.2.E.4 N/A

#### **Training**

11.2.E.5 N/A

## **11.3 REMOVING THE MAGNETIC COMPASS ON THE WHEELHOUSE DECK**

### **11.3.A Introduction**

11.3.A.1 The old standing magnetic compass on top of the wheelhouse is no longer in use, and the work consists of removing it and its periscope from the deck and plugging the opening on the deck with an aluminum doubling plate.

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11.3.A.2 The Contractor shall be responsible for approving the welding performed by ABS.

### **11.3.B** **References**

11.3.B.1 Photos:



### 11.3.B.1 **Drawings**

11.3.B.1.1 All drawings are indicated in the General Comments. The following drawings shall be considered as reference drawings, as defined in the Drawings section of the General Comments.

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	N/A	
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### **11.3.C Regulations and Standards**

11.3.C.1.1 N/A

### **11.3.D Statements of Work**

- 11.3.D.1 Remove the magnetic compass and its wooden base and remove the periscope from the wheelhouse ceiling.
- 11.3.D.2 Weld a doubling plate onto the deck. The plate must be two inches larger than the hole diameter. Apply a primer and repaint the welded part in grey. The coating must be compatible with the existing one, which is interprime 234.
- 11.3.D.3 Replace the missing insulation in the ceiling.

### **11.3.E Proof of Performance**

#### **Inspection Points**

- 11.3.E.1 All work shall be completed to the satisfaction of the Chief Engineer, the TA, and the ABS inspector.

#### **Test and Trials**

- 11.3.E.2 A liquid penetrant test shall be performed in the presence of the inspector.

#### **Certification**

- 11.3.E.3 A copy of the welder's or welders' certification cards must be provided.

#### **Documentation**

- 11.3.E.4 Provide a detailed report on the work done by the welder(s).

#### **Training**

- 11.3.E.5 N/A

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## **12.0 Propulsion and Manoeuvring**

**12.1** **N/A**

## **13.0 Power Generation Systems**

**13.1** **N/A**

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## **14.0 Power Distribution Systems**

### **14.1 ELECTRICAL INSULATION TEST**

#### **14.1.A Identification**

- 14.1.A.1.1 Conduct insulation tests on the vessel's AC electrical circuits as required by Transport Canada regulation TP127E for vessels over 20 years old.
- 14.1.A.1.2 Any anomalies detected shall be logged in a report and will be processed with PSPC form 1379.

#### **14.1.B References**

- 14.1.B.1 -230-V 3Ph and 1Ph AC circuits
- 120-V 1Ph AC circuits
- 24-V DC circuits
- 12-V DC circuits

#### **14.1.B.1 Drawings**

- 14.1.B.1.1 All drawings are indicated in the General Comments. The following drawings shall be considered as reference drawings, as defined in the Drawings section of the General Comments.

Drawing Number	DRAWING TITLE	Number of sheets
	List of electrical circuits on the <i>Île Saint-Ours</i>	

#### **14.1.C Regulations and Standards**

- 14.1.C.1.1 TP127E Transport Canada

#### **14.1.D Statement of Work**

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### 14.1.D.1 The Contractor shall perform the following work:

- 14.1.D.1.1 Conduct insulation tests on all the vessel's AC electrical circuits and record the results in the "List of electrical circuits on the *Île Saint-Ours*" document.
- 14.1.D.1.2 All tests shall be performed between phase and ground. For circuits containing more than one phase, each phase must be tested independently.
- 14.1.D.1.3 Always take the notes on the distribution lists into consideration to prevent damage to equipment.
- 14.1.D.1.4 The voltages used for the insulation tests are in the "List of electrical circuits on the *Île Saint-Ours*" document.
- 14.1.D.1.5 For the distribution circuits:
  - a) Unplug all appliances connected to the circuit to be tested (anything in an electrical outlet). The Contractor shall be responsible for any breakdowns caused by failure to do so.
  - b) All breakers on the circuit should be closed (ON) to conduct the test.
  - c) Open (OFF) the breaker for the circuit to be tested.
  - d) For the generators:
    - e) Open (OFF) the breaker for the generator.
    - f) Disconnect the voltage regulator.
  - g) For the electric motors:
    - h) Open (OFF) the motor breaker.
    - i) Test all the phases independently downstream of the breaker (between the breaker and the motor).
    - j) Find and open starter for the motor to be tested and perform the test on all phases downstream of the starter (between the starter and the motor).

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14.1.D.1.6 All tested circuits with results below 5 megohms must be investigated to identify and correct the cause of the insulation loss.

### **14.1.E Proof of Performance**

#### **14.1.E.1 Inspection Points**

All work shall be completed to the satisfaction of the Chief Engineer, the Vessel Maintenance Manager, and the TCMS inspector or the classification society.

#### **14.1.E.2 Test and Trials**

14.1.E.3 N/A

#### **14.1.E.4 Certification**

14.1.E.5 N/A

#### **14.1.E.6 Documentation**

The Contractor shall provide the Chief Engineer with two (2) hard copies of the original inspection report. The Contractor shall also send an electronic copy of the certificates to the Vessel Maintenance Manager.

The report must be created with the “List of electrical circuits on the *Île Saint-Ours*” document digitally filled out, signed, and dated by the person who performed the work.

The report shall indicate the make, model and serial number of the device used to perform the electrical insulation tests.

#### **14.1.E.7 Training**

14.1.E.8 N/A

## **14.2 RATES FOR ELECTRICAL WORK ON THE DISTRIBUTION**

### **14.2.A Identification**



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14.2.A.1.1 Provide a 50-hr block for certified electrician time (see 14.2.C.1.1). The block can be divided by one or two electricians with naval experience (3–5 years minimum) to perform several jobs and maintenance on the electrical distribution.

### **14.2.B**    **References**

#### **14.2.B.1    Equipment Data**

14.2.B.1.1    24-V DC circuits, 120-V circuits, 240-V power circuits.

All drawings are indicated in the General Comments. The following drawings shall be considered as reference drawings, as defined in the Drawings section of the General Comments.

<b>Drawing Number</b>	<b>DRAWING TITLE</b>	<b>Number of sheets</b>
	S18-0920-PW_R02	
	S18-0920-PW-ELA_R02	

14.2.B.2    N/A

#### **14.2.B.3    Regulations and Standards**

IEEE 45-2002: Recommended Practice for Electric Installations on Shipboard.

TCMS; TP 127E Electrical Standards (2008).

### **14.2.C**    **Statement of Work**

14.2.C.1.1 Provide a block of 150 hrs to perform the following work. Consumables such as tape, wire caps, and small connectors should be included in the hourly rate.

14.2.C.1.2 Diagnose and repair electrical insulation problems (Ground).

14.2.C.1.3 Update the ship's electrical diagrams if modifications are made (Sketches).

14.2.C.1.4 Install and connect electrical appliances. This includes installing electrical outlets and circuit breakers.

14.2.C.1.5    **List of Work to be Performed:**

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1. Put the three outdoor 120-V double outlets on different circuit breakers.
2. Put the two double outlets in the kitchen on two different circuit breakers.
3. Connect a compressor and control panel.

14.2.C.1.6 All work shall be approved by the CCG Technical Authority and the hours signed by the TA or the Chief each day.

14.2.C.1.7 PSPC form 1379 will be used to process electrical equipment not supplied by CCG.

#### **14.2.D Proof of Performance**

##### **Inspection Points**

14.2.D.1 All work shall be completed to the satisfaction of the Chief Engineer, the Vessel Maintenance Manager, and the ABS inspector.

##### **Test and Trials**

14.2.D.2 N/A

##### **Certification**

14.2.D.3 N/A

##### **Documentation**

14.2.D.4 The report with an account of the work shall be written; the document shall be entitled “Electrical Work on the *Île Saint-Ours*, filled in digitally, and signed and dated by the person who performed the work.

## **15.0 Auxiliary Systems**

15.1 N/A

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## **16.0 Domestic Systems**

### **16.1 CLEANING AND INSPECTION OF THE CENTRAL VENTILATION SYSTEM**

#### **16.1.A Identification**

16.1.A.1.1 Do a complete cleaning of the ventilation system. This job must be done upon completion of the work; otherwise, the inlet and outlet doors will have to be caulked.

#### **16.1.B References**

##### **16.1.B.1 Equipment Data**

<b>Drawing Number</b>	<b>DRAWING TITLE</b>	<b>Number of sheets</b>
42-83-803	Ventilation AC layout	

#### **16.1.C Statement of Work**

**The Contractor shall perform the following work:**

- 16.1.C.1.1 Conduct a thorough cleaning of the ship's ventilation system using mechanical suction/pulsion/brushing (octopus) methods and a vacuum equipped with a HEPA filter.
- 16.1.C.1.2 The ventilation system includes the following components: the central ventilation ducts for the bathroom exhaust fans, the diffusers; and the external air intake.
- 16.1.C.1.3 Degrease the galley hood, including its fan and exhaust duct.
- 16.1.C.1.4 Take the necessary measures to adequately protect furniture and equipment during the work.

#### **16.1.D Proof of Performance**

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### **Inspection Points**

- 16.1.D.1 The work shall be completed to the full satisfaction of the Canadian Coast Guard representative.

### **Test and Trials**

- 16.1.D.2 N/A

### **Certification**

- 16.1.D.3 N/A

### **Documentation**

- 16.1.D.4 The Contractor shall provide the Chief Engineer with two (2) hard copies and one electronic copy of a report indicating the general condition of the ventilation system before and after the work. This report shall include photos of the various components of the ventilation system before and after cleaning.

### **Training**

- 16.1.D.5 N/A

## **16.2 CLEANING AND INSPECTION OF THE VENTILATION, HEATING AND AIR CONDITIONING SYSTEM**

### **16.2.A Identification**

- 16.2.A.1.1 Perform the annual inspection of the air conditioning system.
- 16.2.A.1.2 Note: The technician(s) doing the work shall hold a valid Air Conditioning Repairman card, indicate their number on the report, and provide a copy of the card to the CCG representative.
- 16.2.A.1.3 Perform a complete cleaning of the central ventilation unit (HVAC).

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16.2.A.1.4 The heating system is currently connected to 5 kW elements; 10 kW elements are present. Contractor shall connect them, taking care to check the power of the current breaker and the wire size; PSPC form 1379 shall be used to process any changes.

**16.2.B** **References****16.2.B.1** **Equipment Data**

- Carrier 50VL-C36-50 Serial # 1117C09868

**16.2.B.2** **Drawings**

All drawings are indicated in the General Comments. The following drawings shall be considered as reference drawings, as defined in the Drawings section of the General Comments.

Drawing Number	DRAWING TITLE	Number of sheets
42-83-803	<i>Île Saint Ours</i> ventilation	
	50VL-C owner's information manual and product data	

**16.2.B.3** **Regulations and Standards**

The following regulations and standards apply to the work performed in this section; the Contractor shall ensure that all work performed in this section complies with the regulations and standards, as well as with federal and territorial regulations and standards.

Fleet Safety and Security Manual (FSSM) procedures	Title	Included – Yes/No
Section 7.0 7.F.10	Halocarbons, control, maintenance log	

**16.2.C** **Statement of Work**

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**The Contractor shall perform the following work:**

- 16.2.C.1.1 Perform a full inspection of all heating, ventilation, and air conditioning components. All breaks and failures shall be addressed as additional work on form 1379.
- 16.2.C.1.2 Conduct a test to detect refrigerant leaks on all air conditioning system components using an electronic leak detector with a suitable minimum detection level.
- 16.2.C.1.3 Check the operating parameters.
- 16.2.C.1.4 The Contractor shall affix a label with its contact information to each piece of equipment, stating that the equipment has been inspected and tested.
- 16.2.C.1.5 Connect the heating elements to the 10 kW; also check the circuit breaker and the size of the current wire.
- 16.2.C.1.6 Conduct a thorough cleaning of the ship's ventilation system using mechanical suction/pulsion/brushing (octopus) methods and a vacuum equipped with a HEPA filter. Degrease the galley hood, including its fan and exhaust duct.

**The Contractor shall take the necessary measures to adequately protect furniture and equipment during the work.**

### **16.2.D Proof of Performance**

#### **Inspection Points**

- 16.2.D.1 The work shall be completed to the full satisfaction of the Canadian Coast Guard representative.

#### **Tests and Trials**

- 16.2.D.2 The Contractor shall prove to the Chief Engineer or the TA that the system works properly at full power for 2 hrs and to verify that the thermal protection works properly.

#### **Certification**

- 16.2.D.3 Provide a copy of the technician's (or technicians') certification cards.

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### **Documentation**

- 16.2.D.4 The Contractor shall provide the Chief Engineer with two (2) hard copies and one electronic copy of a report indicating the general condition of the ventilation system before and after the work no later than five days after the end of the work. This report shall include photos of the various components of the ventilation system before and after cleaning.

### **Training**

- 16.2.D.5 N/A

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## **17.0 Deck Equipment**

### **17.1 REPLACEMENT OF THE 180 SEA CRANE**

#### **17.1.A Identification**

- 17.1.A.1.1 Remove the Hiab 180 sea crane from its position toward our regional warehouse, Depot 18 Québec, and install the new Heila HLRM 25-3S crane, provided by CCG.
- 17.1.A.1.2 The Contractor shall call upon Heila representative Étienne Huot of Hydraunav inc. to supervise the installation. One visit is scheduled before the work and another after it; the costs are covered by CCG.

Étienne Huot, Eng.  
Hydraunav inc.  
105-433 des Adirondacks Street, Québec  
QC  
G1C 6S2  
418-681-5895  
etienne@hydraunav.com  
www.hydraunav.com

- 17.1.A.1.3 Hook up hydraulic and electrical connections. All work shall be approved by the equipment supplier's technical representative.
- 17.1.A.1.4 The Contractor shall be responsible for storing the equipment, which will have to be covered to prevent any deterioration by rust, frost, lightning and rain, and to guard against loss and theft.

#### **17.1.B References**

##### **17.1.B.1 Equipment Data**

- 17.1.B.1.1 Heila HLRM 25-3S 8,600-kg crane

##### **17.1.B.2 Drawing**



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All drawings are indicated in the General Comments. The following drawings shall be considered as reference drawings, as defined in the Drawings section of the General Comments.

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Drawing Number	DRAWING TITLE	Number of sheets
	Hiab sea crane 180 manual	
42-83-405	deck crane	
	Shéma hydraulique Ile St-Ours	
	basement.dwg	
	drawing.dwg	
	HLRM 25-3S_RFQ3111_GA_01	
	PRJ311_HC-17173_HLRM25.3S BV	

**17.1.B.3 Regulations and Standards**

The following regulations and standards apply to the work performed in this section. The Contractor shall ensure that all work performed in this section complies with regulations and standards, as well as with federal and territorial regulations and standards.

Fleet Safety and Security Manual (FSSM) procedures	Title	Included – Yes/No
Section 10	Maintenance of tackle	Yes

**17.1.C Statement of Work****17.1.C.1 The Contractor shall perform the following work:**

17.1.C.1.1 Switch off all hydraulic pumps (primary and standby).

17.1.C.1.2 Disconnect the hydraulic lines and electric wires from the crane and its components. Plugs shall be provided to prevent leakage during transport to the crane's alienation site.

17.1.C.1.3 Remove the hold-down bolts from its base. The removed equipment must not be damaged; any damage caused during disassembly and transport shall be at the Contractor's expense.

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### **17.1.D Preparation of the Base Foundation**

- 17.1.D.1.1 The Contractor and ABS shall be responsible for structural base modification and inspections; approved plans shall be provided by CCG.

### **17.1.E Installation of the Crane**

- 17.1.E.1.1 Install the new crane on its foundation and hook up the hydraulic and electrical connections in compliance with TCMS standards; TP 127E Electrical Standards (2008) and TCMS, *Marine Machinery Regulations* (SOR/90-264) and section G.
- 17.1.E.1.2 Estimate the cost of a 25-hr block of welding for necessary modifications or guards.

### **17.1.F Proof of Performance**

#### **Inspection Points**

- 17.1.F.1 The Contractor is responsible for scheduling the ABS classification society inspection. CCG shall pay the costs related to the inspection. The Contractor shall confirm with TCMS or the classification society how much notice is required before an inspection. The shipyard shall give 72 hours' notice to the TA for on-site inspections conducted by TCMS or the classification society.

#### **Test and Trials**

- 17.1.F.2 Once the ship is in the water, a regulatory load test under the supervision of the shipyard shall be done in the presence of the Chief Engineer, the TA, and the TCMS inspector or the classification society so that the T2 can be issued.

#### **Certification**

- 17.1.F.3 The Contractor shall provide the Chief Engineer and the TA with two (2) hard copies of the original inspection certificates.

#### **Documentation**

- 17.1.F.4 The Contractor shall provide technical reports for the work performed in this section. The report shall include the narrative description and details of all findings made by the Contractor during the performance of the work. The report shall include the details

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of the TCMS or classification society inspection, including date and time and the name of the inspector.

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## **18.0 Communications and Navigation**

### **18.1 RADIO AND NAVIGATION EQUIPMENT INSPECTION**

#### **18.1.A Identification**

18.1.A.1.1 The Contractor shall be responsible for having the radio and associated navigation equipment inspections conducted and for producing the inspection certificate in compliance with the requirements of the ABS classification society.

#### **18.1.B References**

##### **18.1.B.1 Equipment Data**

- a) 1 x VHF DSC Class A, including a Sailor 6222.
- b) 1 x VHF DSC Class D, including a Sailor 6216.
- a) 1 x EPIRB Class 1
- b) 1 x Furuno Masthead 12-kW X-Band. radar.
- c) Power supply for radio.
- d) Batteries, including emergency lighting.
- e) DGPS-AIS SAAB-R5

##### **18.1.B.2 Drawings**

18.1.B.2.1 All drawings are indicated in the General Comments. The following drawings shall be considered as reference drawings, as defined in the Drawings section of the General Comments.

Drawing Number	DRAWING TITLE	Number of sheets
	N/A	

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### **18.1.B.3 Regulations and Standards**

18.1.B.3.1 *Canada Shipping Act, 2001.*

#### **Statement of Work**

18.1.B.3.2 Inspect the equipment mentioned in 18.1.B.1 according to the manufacturer's manuals while complying with ABS rules and procedures.

#### **Proof of Performance**

#### **Inspection Points**

18.1.B.2 All work shall be completed to the satisfaction of the Chief Engineer and the ABS inspector.

#### **Tests and Trials**

18.1.B.3 Tests shall be performed in compliance with ABS classification society regulations.

#### **Certification**

18.1.B.4 The Contractor shall provide the Chief Engineer with two (2) hard copies of the maintenance certificates along with the originals. The Contractor shall also send an electronic copy of the certificates to the Vessel Maintenance Manager.

#### **Documentation**

18.1.B.5 N/A

#### **Training**

18.1.B.6 [N/A]

## **19.0 Control Systems**

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**19.1**   **N/A**