

# **Annex A**

## **CCGS Ile St-Ours ship repair 2021-22 F3065 – 210265**

Planned dates : 10 january to 25 february

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# **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>	<b>-</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	Yes	
Specific to the vessel	Specific to the vessel: Lead paint test report	Yes	
<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>	<b>-</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.

<b>Drawing No.</b>	<b>Title</b>	<b>No. of Pages</b>
42-83-405	Deck crane arrgt	
	Plan Hydraulique	
	List of electrical circuits for St-Ours	
42-83-300	General arrangement	
	HLRM 25-3S_RFQ3111_GA_01	
06570-20	Plan incendie	
42-83-320B	Fire detection layout	
	Stability booklet	

### 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.

Tank Name	Location	Capacity in m <sup>3</sup>
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 in order to define the objectives, performance, standards and engineering requirements for the annual refit of the CCGS Ile St-Ours of the Canadian Coast Guard, Fisheries and Oceans Canada. This refit includes annual maintenance and certification work. The work will be done at the Prescott base between January 10 and 25 February.

G 1.3.2 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 1.4.1 Covid 19**

G 1.4.1.1 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 Regarding the Use of Non-Medical Masks at Work
6102-515	Issuance of letters of designation of contractors during the COVID-19 pandemic

G 1.4.1.2 Due to the Covid-19 pandemic, the contractor must comply with document CCC 12-2020 "COVID-19 - Health screening questionnaire for Canadian Coast Guard personnel and visitors accessing the facilities and Canadian Coast Guard ships ”during an outbreak of an infectious disease such as COVID-19.

G 1.4.1.3 The Contractor must ensure that all its employees and sub-contractors 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 available to its employees and subcontractors.

G 1.4.1.4 Contractor's essential service letters will be issued in accordance with procedure 515 if required for the prime contractor and any subcontractor appointed to facilitate travel and work.

**G 1.4.2 Occupational health and safety**

G 1.4.2.1 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 1.4.2.2 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 1.4.2.3 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 1.4.2.4 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 1.4.2.5 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 1.4.3 Lead paints and coatings**

- G 1.4.3.1 The Contractor shall not use lead paint.
- G 1.4.3.2 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 1.4.4 Damaged paint and retouching**

- G 1.4.4.1 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 1.4.5 Asbestos-containing materials (ACM)**

- G 1.4.5.1 The Contractor shall use insulation that contains 0% ACM.
- G 1.4.5.2 The Contractor will receive, upon request, the most recent asbestos risk assessment report and the CCG Asbestos Management Plan.
- G 1.4.5.3 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 1.4.5.4 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 1.4.5.5 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 1.4.6 Confined spaces**

G 1.4.6.1 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 1.4.7 Hot work**

G 1.4.7.1 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 1.4.8 Working aloft**

G 1.4.8.1 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 1.4.9 Electrical equipment**

G 1.4.9.1 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 1.4.9.2 The TA must be notified of all work in progress.

G 1.4.9.3 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 1.4.10 Workplace Hazardous Materials Information System (WHMIS)**

G 1.4.10.1 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 1.4.10.2 All MSDS must be kept up to date in accordance with OHS procedures.

G 1.4.10.3 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 1.4.11 Smoking in the workplace**

- G 1.4.11.1 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 1.4.12 Material and tools provided by the Contractor**

- G 1.4.12.1 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 1.4.12.2 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 1.4.12.3 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 1.4.12.4 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 1.4.12.5 All tools must be provided by the Contractor unless otherwise specified in the technical specifications.

**G 1.4.13 Material and tools provided by the government**

- G 1.4.13.1 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 1.4.13.2 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 1.4.14 Storage**

- G 1.4.14.1 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 1.4.14.2 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 1.4.15 Regulatory verifications and classification surveys**

- G 1.4.15.1 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 1.4.16 Contractor inspections**

- G 1.4.16.1 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 1.4.16.2 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 1.4.16.3 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 1.4.17 Records of work in progress**

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

**G 1.4.18 Access for maintenance, installation and removal**

- G 1.4.18.1 [N/A]

**G 1.4.19 Assembly of components**

- G 1.4.19.1 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 1.4.19.2 The Contractor shall replace damaged covers, hoods and components with new covers, hoods or components.

G 1.4.19.3 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 1.4.20 Equipment protection**

G 1.4.20.1 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 1.4.20.2 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 1.4.20.3 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 1.4.20.4 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 1.4.20.5 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 1.4.20.6 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 1.4.20.7 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 1.4.20.8 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 1.4.21 Systems containing halocarbons**

G 1.4.21.1 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 1.4.22 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 1.6.1 Reference drawings - 3 copies**

G 1.6.1.1 [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 Opérating 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 the toilets on board ships will be out of service. The contractor will have to provide a chemical toilet for its employees, as the adjacent premises will be unavailable due to Covid 19..

**S 1.10.2** A construction facility (Trailer) will be required on site with the prior agreement of the base authorities and the technical service, for the dimensions, locations and availability of electric current.

**S 2.0 PRODUCTION SCHEDULE****S 2.1 SCOPE**

**S 2.1.1** This specification is intended to provide the owner's representatives with a precise schedule of work and completion for Coast Guard purposes.

**S 2.2 TECHNICAL DESCRIPTION**

**S 2.2.1** The contractor shall provide an electronic copy of MS Project 2010(.mpp) or later with a detailed Gantt chart that illustrates the planned schedule for the vessel refit. This chart must show each task in the specification with its start date, duration and expected and actual completion date. An electronic version shall also be sent to the

TA, Chief Engineer, and the Contracting Authority no later than five (5) days after the contract award date.

- S 2.2.2 Any critical work sequences shall be identified, along with critical tasks that may delay the refit if it does not meet the planned work schedule. This may include manpower issues or tasks that cannot be performed in parallel with other tasks.
- S 2.2.3 All inspections, tests and trials shall be recorded in the production diagram.
- S 2.2.4 In the event of work affecting the critical work flow, the TA shall be notified immediately. Every effort should be made to avoid delaying the ship's refit. Regular quality assurance procedures shall be followed.
- S 2.2.5 The Gantt chart shall be updated weekly and in advance of each production meeting to show the actual progress of the refit and changes to the completion date of each item. The contractor shall include in his updates to the Gantt chart any special work requested on PWGSC Form 1379 indicating the impact that the additional work will have on the work schedule.

**S 2.3 Acceptance Work**

**S 2.4 Inspection**

- S 2.4.1 All work must be approved by the TA, and the ABS inspector for regulatory work.

**S 2.5 DELIVERABLE DOCUMENTS**

- S 2.5.1 The successful contractor shall provide three hard copies and one electronic copy of the work schedule to the ship's TA no later than five (5) days after the award of the contract.

**S 2.5.2**

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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 must inspect all fire extinguishers and certify the fire extinguisher for which the certification date has expired.

##### **10.1.B References**

###### **10.1.B.1 Equipment data**

a) Portable fire extinguishers - see list

###### **10.1.B.2 Drawings**

10.1.B.1.2 All drawings are indicated in “General Remarks”. The following drawings must be considered as reference drawings, according to the definition given in the “Drawings” section of “General Remarks”.

Drawing number	DRAWING TITLE	Number of sheets
	CCGS Ile St-Ours–Portable fire extinguishers	

###### **10.1.B.1 Regulations and standards**

10.1.B.1.1 ABS Fire-fighting systems guidance notes on.

10.1.B.1.3 NFPA 10 - Standard for Portable Fire Extinguishers

##### **10.1.C Statement of work**

10.1.C.1 Fire extinguishers must be inspected and maintained in accordance with NFPA 10 - Standard for Portable Fire Extinguishers. The work must be performed by a third-party subcontractor recognized by a member of the IACS, under the contractor’s responsibility.

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- 10.1.C.2 The personnel performing inspection and maintenance work must be certified individually by one of the following means:
- a) Factory trained and certified for the specific equipment and system maintained.
  - b) By a nationally or internationally recognized certification body (ISO, NFPA, CFAA).
  - c) Employment and qualification by a body used by a fire extinguisher testing laboratory recognized nationally (ULC) or internationally (ISO or NFPA).
- 10.1.C.3 The contractor must remove the fire extinguishers in a sequence that ensures that the number of extinguishers off the vessel never exceeds one third of the total (maximum 6) of the fire extinguishers on shipboard. The Chief Engineer will determine the order of removal of the fire extinguishers from the vessel.
- 10.1.C.4 Once maintenance is completed, return all the fire extinguishers on shipboard and put them back in place according to the Chief Engineer’s instructions.

### **10.1.D Proof of performance**

#### **10.1.D.1 Inspection points**

- 10.1.D.1.1 All the work must be completed to the satisfaction of the Chief Engineer and the ABS inspector.

#### **10.1.D.2 Tests and trials**

- 10.1.D.2.1 The fire extinguishers will be tested in accordance with the standards of NFPA 10 Chapter 7 and the ABS classification society.

#### **10.1.D.3 Certification**

- 10.1.D.3.1 All the people who perform the work must present their credentials or their qualifications to the Chief Engineer of the vessel before beginning. The contractor must submit electronic copies to the Technical Authority (TA) of the CCG within 5 days after the work begins.

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10.1.D.3.2 The contractor must provide the Chief Engineer with two (2) paper copies of the maintenance certificates with their original copy. The Contractor will also send an electronic copy of the certificate to the person in charge of maintenance of the vessel.

**10.1.D.4 Documentation**

10.1.D.4.1 The contractor must place a solidly attached and durable label on each fire extinguisher inspected. The labels must indicate the company, the inspection date and the name or initials of the technician.

**10.1.D.5 Training**

10.1.D.5.1 [N/A]

## **10.2 FIRE DETECTION SYSTEM**

**10.2.A Identification**

10.2.A.1 The purpose of this specification is to ensure the contractor provides the accredited labour to conduct the annual inspection and certification of the fire detection system.

**10.2.B References**

10.2.B.1 **Notify, model MSF640**

10.2.B.2 **Drawings**

10.2.B.2.1 All drawings are indicated in “General Remarks”. The following drawings must be considered as reference drawings, according to the definition given in the “Drawings” section of “General Remarks”.

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

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### 10.2.B.3 Regulations and standards

10.2.B.3.1 SOLAS 2020 Chapter II-2 Regulation 7

10.2.B.3.2 NFPA 72 – National Fire Alarm and Signaling Code – Chapter 14

10.2.B.3.3 ABS Fire-fighting systems guidance notes

### **10.2.C Statement of work**

10.2.C.1 Plan an inspection visit by the ABS classification society before the work begins.

10.2.C.2 The contractor must provide a written inspection plan to the Technical Authority (TA) of the CCG before the work begins.

10.2.C.3 Provide the accredited labour to conduct the annual inspection and the certification of the fire detection system, NFPA 72 – *Chapter 14, for visual and functional testing*. The certificate of inspection must be issued by a supplier authorized by an IACS-recognized classification society.

10.2.C.4 The personnel performing inspection and maintenance work must be certified individually by one of the following means:

- a) Factory trained and certified for the specific equipment and system maintained.
- b) By a nationally or internationally recognized certification body, such as ISO, NFPA or CFAA.
- c) Employment and qualification by a body used by a testing laboratory recognized nationally (ULC) or internationally (ISO or NFPA) for fire detection systems.

10.2.C.5 The Notify MSF640 control panel of the fire detection system is found on the port side of the wheelhouse. Proof of performance

### **10.2.D Proof of performance**

10.2.D.1 Inspection points

10.2.D.1.1 All the work must be completed to the satisfaction of the Chief Engineer and the ABS inspector.

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10.2.D.1.2 All the deficiencies or all the defects discovered during the inspection must be corrected. If the contractor is unable to correct these deficiencies during the inspection, it must inform the Technical Authority (TA) of the CCG in writing within 24 hours after discovery of the deficiency or the defect.

### 10.2.D.2 Tests and trials

10.2.D.2.1 The Chief Engineer and/or the Technical Authority (TA) must be present during the system tests.

### 10.2.D.3 Certifications

10.2.D.3.1 All the people who perform the work must present their credentials or their qualifications to the Chief Engineer of the vessel before beginning. The contractor must submit electronic copies to the Technical Authority (TA) of the CCG within 5 days after the work begins.

10.2.D.3.2 The contractor must provide the Chief Engineer with two (2) paper copies of the maintenance certificates with their original copy. The contractor will also send an electronic copy of the certificate to the person in charge of maintenance of the vessel.  
**The certificate must have a 1-year term**

### 10.2.D.4 Documentation

10.2.D.4.1 The contractor will provide the Chief Engineer with one (1) paper copy of its typed report, which details the inspections, the modifications and the repairs made before acceptance of this item. The contractor will also send an electronic copy of the report to the person in charge of maintenance of the vessel no later than five (5) days after the end of the work awarded in the contract.

### 10.2.D.5 Training

10.2.D.5.1 N/A

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### **10.3 ANNUAL INSPECTION OF THE STATIONARY FIRE-FIGHTING SYSTEM**

#### **10.3.A Identification**

- 10.3.A.1.1 The purpose of this specification is to maintain and certify the stationary fire-fighting system, the engine rooms and the kitchen of CCGS Ile St-Ours. Verify the condition and connection of the copper conduits of the switches and sirens.
- 10.3.A.1.2 The contractor will communicate with the Chief Engineer before undertaking work on this item. This work must be performed parallel to maintenance of the portable extinguishers without thereby reducing the fire-fighting capacity on shipboard.
- 10.3.A.1.3 The stationary fire-fighting system is a CO<sub>2</sub> system.

#### **10.3.B Reference**

Kitchen	Cylinder: 1 Make: Range Guard Model: RG-2.5G Fuse and electric shut off
CO <sub>2</sub> system:	Make: Pyrene Cylinders: 2 x 100 lbs Retardant cylinders 2 S/M protection and forward hold
S/M:	1 audible gas alarm and 1 sound and light electric siren
Forward hold	Sound and light electric alarm
Electric ventilation flaps	2 flaps

#### **10.3.B.1 Drawings**

- 10.3.B.1.1 All drawings are indicated in “General Remarks”. The following drawings must be considered as reference drawings, according to the definition given in the “Drawings” section of “General Remarks”.

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

**10.3.B.2 Regulations and standards**

10.3.B.2.1 SOLAS 2020 - II-2/10.

10.3.B.2.2 NFPA 2001 – Standard on Clean Agent Fire Extinguishing Systems Chapters 8 and 9.

10.3.B.2.3 ABS Guidance on Fire-Fighting Systems

**10.3.C Statement of work**

10.3.C.1 The personnel performing inspection and maintenance work must be certified individually by one of the following means:

- a) Factory trained and certified for the specific equipment and system maintained.
- b) By a nationally or internationally recognized certification body, such as ISO, NFPA or CFAA.
- c) Employment and qualification by a body used by a testing laboratory recognized nationally (ULC) or internationally (ISO or NFPA) for fire detection systems.

10.3.C.2 The contractor must provide a written inspection plan to the Technical Authority (TA) of the CCG before the work begins.

10.3.C.3 The contractor will communicate with the Chief Engineer before undertaking work on this item. This work must be performed parallel to maintenance of the portable extinguishers without thereby reducing the fire-fighting capacity on shipboard.

10.3.C.4 The contractor is responsible for the work and must provide the necessary labour through a service provider approved by a member of the IACS. The work must be performed in accordance with the equipment manufacturer's instructions and all the applicable requirements of Chapters 8 and 9 of NFPA 2001.

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- 10.3.C.5 The Chief Engineer must attend all the tests.
- 10.3.C.6 All repairs must be performed to the satisfaction of the ABS Inspector.
- 10.3.C.7 Provide in its specification the cost for testing the alarms (pilot lights, sirens and bells) of all devices, testing the nitrogen-activated cylinders, testing the ventilation closing devices and testing the cable release loops.
- 10.3.C.8 Air pressure clean the pipes and the pneumatic actuators and ensure they work correctly. The pipes and nozzles must be free of obstructions.
- 10.3.C.9 At the end of the tests and inspections, remount the systems and return them to service.
- 10.3.C.10 The stationary CO<sub>2</sub> fire extinguisher system is found in the workshop under the stairs.

### **10.3.D Proof of performance**

#### **10.3.D.1 Inspection points**

- 10.3.D.1.1 All the work must be completed to the satisfaction of the Chief Engineer, the person in charge of maintenance of the vessel and the ABS regulatory authority.
- 10.3.D.1.2 All the deficiencies or all the defects discovered during the inspection must be corrected. If the contractor is unable to correct these deficiencies during the inspection, it must inform the Technical Authority (TA) of the CCG in writing within 24 hours after discovery of the deficiency or the defect.

#### **10.3.D.2 Tests and trials**

- 10.3.D.2.1 The Chief Engineer must attend the inspection and testing of the system.

#### **10.3.D.3 Certification**

- 10.3.D.3.1 All the people who perform the work must present their credentials or their qualifications to the Chief Engineer of the vessel before beginning. The contractor must submit electronic copies to the Technical Authority (TA) of the CCG within 5 days after the work begins.
- 10.3.D.3.2 The contractor must provide the Chief Engineer with two paper copies of the maintenance certificates with their original copy. The Contractor will also send an

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electronic copy of the certificate to the person in charge of maintenance of the vessel.  
**The certificate must have a 1-year term**

10.3.D.4 **Documentation**

10.3.D.4.1 The contractor will provide the Chief Engineer with one paper copy of its typed report, which details the inspections, the modifications and the repairs made before acceptance of this item. The contractor will also send an electronic copy of the report to the person in charge of maintenance of the vessel no later than five (5) days after the end of the work.

## 11.0 Hull and Related Structures

### 11.1 PROVIDE A BLOCK OF TIME FOR REPAIR AND WELDING OF STEEL AND ALUMINIUM

11.1.A Identification

11.1.A.1 Provide the price for a block of 50 hours for various welding jobs during the work.

11.1.B References

11.1.B.1 **Competency data**

11.1.B.1.2 The welders must have the competency cards indicated in G.1.4.5 and take the related safety measures, and will have at least three (3) years of experience working on ships.

11.1.B.3 **Drawings**

11.1.B.3.1 All drawings are indicated in the General Remarks. The following drawings are to be considered reference drawings as defined in the Drawings section of the General Remarks.

Drawing number	DRAWING TITLE	Number of sheets
	N/A	

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**Regulations and standards**

	<b>Title</b>	<b>Supplied by:</b>
<b>Standards</b>		
EKME#3049715v6	GCC Specification de soudure-FR (Apr 2020) (CCG welding specifications - April 2020)	CCG
18-080-000-SG-003	CCG Paint and Coatings Std	CCG
24.2.4.1 SMTC; TP 127F	Electricity standards (2008)	Contractor
<b>Regulations</b>		
CSA 2001	24.2.3.1 Canada Shipping Act, 2001 (2001, c. 26)	Contractor
Canada Labour Code	Canada Labour Code (R.S.C., 1985, c. L-2)	Contractor
24.2.3.2 SMTC;	Marine Machinery Regulations (SOR/90-264)	Contractor
SOR/2010-120	Maritime Occupational Health and Safety Regulations	Contractor
MOHS	Maritime Occupational Health and Safety	Contractor

**11.1.C Statement of work**

- 11.1.C.1 Grinding, oxygen cutting and welding work on steel and aluminium (50 hrs).
- 11.1.C.2 Example: Welding anchors on the bridge or guardrail, bulkhead adaptors, pipe repair, floor repair. etc. If applicable.
- 11.1.C.3 The contractor, in agreement with the Technical Authority (TA), must plan the maximum work in the same time period to avoid losses of time in mobilizations and demobilizations.
- 11.1.C.4 All the work must be approved by the Technical Authority (TA) of the CCG and the hours signed by the TA and the Chief Engineer each day.
- 11.1.C.5 The hourly rate charged, if there are additional hours, or the hourly rate credited, if there were fewer hours, will be calculated on a prorated basis.
- 11.1.C.6 The equipment used that is not supplied by the CCG, will be processed with PWPC Form 1379.

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### 11.1.D **Proof of performance**

#### 11.1.D.2 **Inspection points**

11.1.D.2.1 All the work must be completed to the satisfaction of the Chief Engineer and the Technical Authority (TA) and the ABS inspector.

#### 11.1.D.3 **Tests and trials**

11.1.D.3.1 Depending on the type of work requested, a liquid penetrant test could be requested.

#### 11.1.D.4 **Certification**

11.1.D.4.1 A copy of the certification cards of the welder or welders must be provided.

#### 11.1.D.5 **Documentation**

11.1.D.5.1 Provide a detailed report on the work done by the welder or welders.

#### 11.1.D.6 **Training**

11.1.D.6.1 N/A

## **11.2 REPAIR OF WHEELHOUSE DOORS**

### **11.2.A Identification**

11.2.A.1 Verify and adjust the wheelhouse storm door closing system, because the mechanism is blocked. Modify it as needed.

### **11.2.B References**

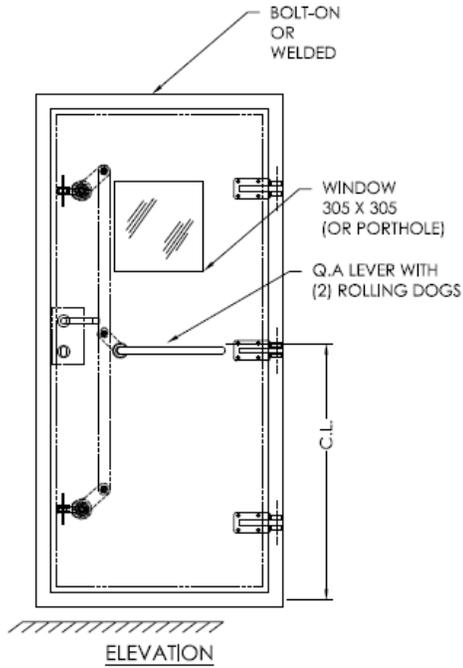
#### 11.2.B.1 **Steel Joiner doors**

Model D-001-3C-D

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### 11.2.C Drawings

11.2.C.1.1 All drawings are indicated in the General Remarks. The following drawings are to be considered reference drawings as defined in the Drawings section of the General Remarks.

Drawing number	DRAWING TITLE	Number of sheets
F3004-18IN155 PLAN 1	D-001-3C-D	

### 11.2.D Regulations and standards

11.2.D.1 N/A

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### **11.2.E Statement of work**

- 11.2.E.1 Check the storm door closing mechanism with the Chief Engineer and find out why the storm doors do not close properly and block.
- 11.2.E.2 Proceed with the necessary adjustments.
- 11.2.E.3 If repairs or machining are necessary, they will be processed with PWPC Form 1379.

### **11.2.F Proof of performance**

#### **11.2.F.2 Inspection points**

- 11.2.F.2.1 All the work must be completed to the satisfaction of the Chief Engineer and the Technical Authority (TA) and the ABS inspector.

#### **11.2.F.3 Tests and trials**

- 11.2.F.3.1 Depending on the type of work requested, a liquid penetrant test could be requested.

#### **11.2.F.4 Certification**

- 11.2.F.4.1 If necessary, a copy of the certification cards of the welder or welders must be provided.

#### **11.2.F.5 Documentation**

- 11.2.F.5.1 Provide a detailed report on the work done by the contractor.

### **Training**

- 11.2.F.1.1 N/A

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## **12.0 Propulsion and Manoeuvring**

**12.1 N/A**

## **13.0 Energy Production Systems**

**13.1 N/A**

13.1.A.1.1

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### **14.0 Energy Distribution Systems**

#### **14.1 ELECTRICAL INSULATION TEST**

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

- 14.1.A.1.1 Run the insulation tests of the vessel’s AC electric circuits, as required by Transport Canada Ships Electrical Standards TP127E for vessels over 20 years old.
- 14.1.A.1.2 Any anomaly detected must be flagged in a report, and will be processed with PWPC Form 1379

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

- 14.1.B.1 -230 VAC circuits 3 Ph and 1 Ph
- 120 VAC circuits 3 Ph and 1 Ph
- 24 VDC circuits
- 12 VDC circuits

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

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

Drawing number	DRAWING TITLE	Number of sheets
	List of Ile St-Ours electric circuits	
	The plans will be provided when the contract is awarded.	

##### **14.1.C Regulations and standards**

- 14.1.C.1.1 Transport Canada TP127E

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### **14.1.D Statement of work**

#### **14.1.D.1 The Contractor must perform the following work, in particular:**

- 14.1.D.1.1 Run the insulation tests of all the ship's electric circuits and enter the results in the document “List of Ile St-Ours electric circuits”.
- 14.1.D.1.2 All the tests are run between a phase and the ground. For the circuits including more than one phase, each phase must be tested individually.
- 14.1.D.1.3 Always consider the notes on the distribution lists to avoid damaging equipment.
- 14.1.D.1.4 The voltages used for the insulation tests are entered on the “List of Ile St-Ours electric circuits”.
- 14.1.D.1.5 For the distribution circuits:
  - a) Disconnect all the devices connected to the circuit to be tested (everything that is plugged into a receptacle). The contractor will be liable for any breakage caused by non-compliance with this guideline.
  - b) All the switches on the circuit must be closed (ON) to run the test.
  - c) Open (switch OFF) the circuit-breaker to be tested.
  - d) For the generators:
    - e) Open (switch OFF) the generator circuit-breaker.
    - f) Disconnect the voltage regulator.
  - g) For the electric motors:
    - h) Open (switch OFF) the motor circuit-breaker.
    - i) Test all the phases independently downstream from the circuit-breaker (between the circuit-breaker and the motor).
    - j) Find and open the starter of the motor to be tested and run the test on all the phases downstream from the starter (between the starter and the motor).

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14.1.D.1.6 All the circuits tested with a result less than 5 megaohms must be investigated to find and correct the cause of the loss of insulation.

### **14.1.E Proof of performance**

#### **14.1.E.1 Inspection points**

All the work must be completed to the satisfaction of the Chief Engineer, the person in charge of maintenance of the vessel and the SMTC or classification society inspector.

#### **14.1.E.2 Tests 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 must provide the Chief Engineer with two paper copies of the original inspection reports. The Contractor will also send an electronic copy of the certificate to the person in charge of maintenance of the vessel.

The report must be produced with the document “List of CCGS Ile St-Ours electric circuits” signed and dated by the implementer of the work.

The report must mention the make, the model and the serial number of the measuring device used to perform the electrical insulation tests.

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

14.1.E.8 N/A

## **14.2 RATE FOR ELECTRICAL WORK ON DISTRIBUTION**

### **14.2.A Identification**

14.2.A.1.1 Provide a block of time of 50 certified electrician hours. The block can be divided between one or two electricians with naval experience (3-5 years of experience)

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minimum), to accomplish several jobs and maintenance on electrical power distribution.

### **14.2.B   References**

#### **14.2.B.1   Equipment data**

14.2.B.1.1   24 VDC circuits, 120 V circuits, 240 V power circuits.

All drawings are indicated in the General Remarks. The following drawings are to be considered reference drawings as defined in the Drawings section of the General Remarks.

Drawing number	DRAWING TITLE	Number of sheets
	Ile St-Ours one-wire plan	

#### **14.2.B.2   Regulations and standards**

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

SMTC; TP 127F Electricity Standards (2008).

### **14.2.C   Statement of work**

14.2.C.1.1   Provide a block of 50 hours to perform the following work. Consumables such as adhesive tape, Marrette wire connectors and small connectors will have to 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 electrical plans of the vessel if modifications are made (Sketch).

14.2.C.1.4   Installation and connection of electrical devices, such as installation of electrical receptacles and circuit-breakers.

#### **14.2.C.1.5   List of work to be done**

1.   Install an IP66 waterproof start button for the fire pump and the forward deck near the CO<sub>2</sub> actuator.

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2. Connect a compressor and its control panel

14.2.C.1.6 All the work must be approved by the Technical Authority (TA) of the CCG and the hours signed by the TA and the Chief Engineer each day.

14.2.C.1.7 The electrical equipment is not supplied by the CCG, will be processed with PWPC Form 1379.

### **14.2.D Proof of performance**

#### **Inspection points**

14.2.D.1 All the work must be completed to the satisfaction of the Chief Engineer, the person in charge of maintenance of the vessel and the ABS inspector.

#### **Tests and trials**

14.2.D.2 N/A

#### **Certification**

14.2.D.3 N/A

#### **Documentation**

14.2.D.4 The report with a presentation of the work must be written and the document entitled “Ile St-Ours electrical work” must be completed manually, signed and dated by the implementer of 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 duct system. This work must be performed on the weekend or else all the inlet and outlet traps must be caulked

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

###### **16.1.B.1 Equipment data**

Drawing number	DRAWING TITLE	Number of sheets
42-83-803	Ventilation AC layout	

##### **16.1.C Statement of work**

**The Contractor must perform the following work, in particular:**

- 16.1.C.1.1 Do a complete cleaning of the shipboard ventilation system with the mechanical suction/pulse/brushing (octopus) method and an extraction cleaner equipped with a HEPA filter.
- 16.1.C.1.2 The ventilation system includes the following components: the central ventilation ducts of the bathroom extraction fans, the diffusers, and the outdoor air intakes.
- 16.1.C.1.3 Degrease the kitchen hood, including its fan and its extraction duct. The hood includes a Kidd extraction system that must be manipulated, as needed, by a fire system technician chosen by section 10.2 and 3.
- 16.1.C.1.4 Take the necessary measures to protect the shipboard furniture and equipment adequately during the work.

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### **16.1.D Proof of performance**

#### **Inspection points**

- 16.1.D.1 The work must be performed to the complete satisfaction of the Coast Guard representative.

#### **Tests and trials**

- 16.1.D.2 N/A

#### **Certification**

- 16.1.D.3 N/A

#### **Documentation**

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

#### **Training**

- 16.1.D.5 N/A

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

### **16.2.A Identification**

- 16.2.A.1.1 Conduct the annual inspection of the air conditioning system.
- 16.2.A.1.2 Note: The technician or technicians proceeding with the work must have a valid refrigeration technician card and indicate its number in the report and provide a copy of the card to the Coast Guard representative.
- 16.2.A.1.3 Perform the complete cleaning of the central ventilation unit (HVAC).



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- 16.2.C.1.2 Run a coolant leak detection test on all the components of the air conditioning system with an electronic leak detector with a suitable minimum detection level.
- 16.2.C.1.3 Verify the operating settings.
- 16.2.C.1.4 On each equipment unit, the contractor must apply a label with its contact information and stating that the equipment has been inspected and tested.
- 16.2.C.1.5 Connect the heating elements to 10 kw, checking the circuit-breakers and the gauge of the existing wire.
- 16.2.C.1.6 Do a complete cleaning of the shipboard ventilation system with the mechanical suction/pulse/brushing (octopus) method and an extraction cleaner equipped with a HEPA filter. Degrease the kitchen hood, including its fan and its extraction duct.

**The contractor must take the necessary measures to protect the shipboard furniture and equipment adequately during the work.**

### **16.2.D Proof of performance**

#### **Inspection points**

- 16.2.D.1 The work must be performed to the complete satisfaction of the Coast Guard representative.

#### **Tests and trials**

- 16.2.D.2 The contractor will have to prove to the Chief Engineer or the Technical Authority (TA) that the systems operate correctly at full power for 2 hours and check whether the thermal protection works properly.

#### **Certification**

- 16.2.D.3 Provide a copy of its technicians' certificate cards.

#### **Documentation**

- 16.2.D.4 The contractor must provide the Chief Engineer with two (2) paper 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

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must include photos of the different ventilation system components before and after cleaning.

### Training

16.2.D.5 N/A

## **17.0 Deck Equipment**

### **17.1 ANNUAL INSPECTION OF THE HEILA HLM 25-3S CRANE**

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

- 17.1.A.1 The contractor will be responsible for proceeding with the annual maintenance of the new Heila HLM 24-3S crane according to the manufacturer’s manual. This inspection must be conducted by a technician accredited by the manufacturer.
- 17.1.A.2 The contractor will have to make an annual maintenance report (T1) for the classification society and the CCG.

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

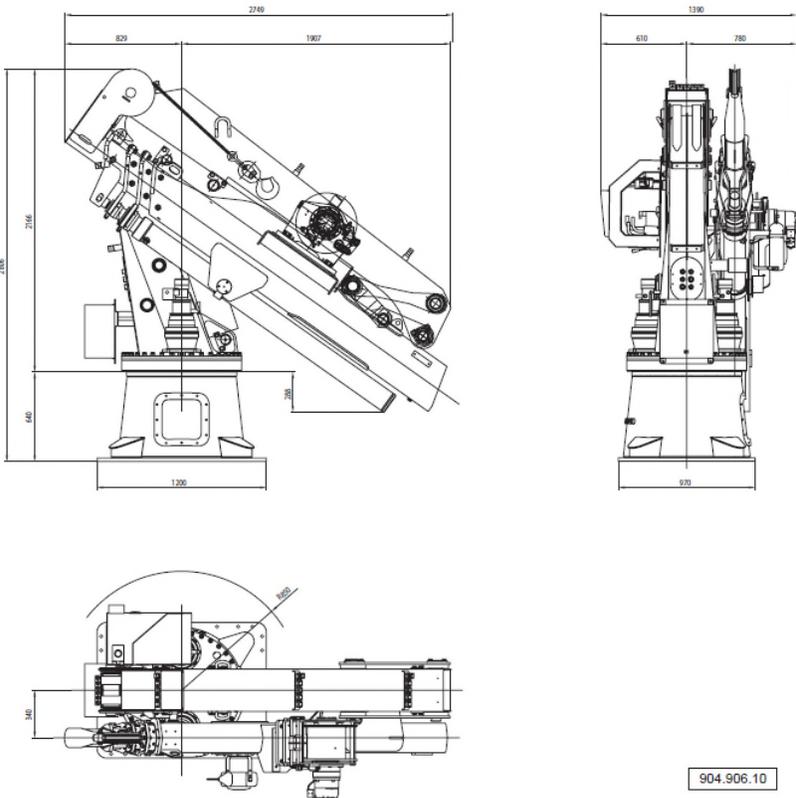
##### **17.1.B.1 Equipment data**

Specifications	Data
Heila HLM 25-3S	
Weight	<b>3650 kg</b>
Working pressure	<b>240 bar</b>
Hydraulic extensions	<b>3</b>
Moment of dynamic curvature	<b>365 KNm</b>
Span	<b>10.57m</b>
Hydraulic flow	<b>50 L/m</b>
Rotation torque	<b>85 KNm</b>
Maximum wear of extensions	<b>1.8 mm</b>
Maximum play of rotation gears	<b>0.34 a 0.42 mm</b>
Danfoss 5-function valve block	
Voltage	<b>24 V</b>

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Direct pull hoist	<b>3000 kg</b>
Cable length	<b>40 m</b>

226	<b>Dimensioni d'ingombro</b>	<b>Overall dimensions</b>	
			

### 17.1.B.2 Drawings

17.1.B.2.1 All drawings are indicated in the General Remarks. The following drawings are to be considered reference drawings as defined in the Drawings section of the General Remarks.

Drawing number	DRAWING TITLE	Number of sheets
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	Heila crane manuals	<b>25 Meg</b>
	Heila crane HLRM 25.3S BV CANAL Redline electrical plans	

### 17.1.B.3 Regulations and standards

17.1.B.3.1 The following regulations and standards apply to the work performed in this section. The Contractor shall ensure that all work performed in this section satisfied the regulations and standards and other federal, and territorial regulations and standards.

<b>Procedures of the Fleet Safety and Security Manual (FSSM)</b>	<b>Title</b>	<b>Included – Yes/No</b>
Section 10	Loading maintenance and tooling	Yes
<b>Statutes and standards</b>	<b>Title</b>	<b>Included – Yes/No</b>
	Canada Shipping Act, 2001	No
	ABS Lifting-appliances-guide-Dec-20	No

### 17.1.C Statement of work

- 17.1.C.1 The contractor will be responsible for conducting the annual inspection of the Heila crane according to the manufacturer’s manual. This takes precedence over the following statements and produces an annual maintenance report for the classification society and the CCG.
- 17.1.C.2 Checking the hoist on its mechanical and hydraulic side, the cable and its hook.
- 17.1.C.3 Visually check the structure and pulley.
- 17.1.C.4 Check the play of the rotation gears.
- 17.1.C.5 Check the rotation motors and their oil level.

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- 17.1.C.6 Check the torque of the anchor and structural bolts with a torque wrench.
- 17.1.C.7 Check the hydraulic leaks.
- 17.1.C.8 Check the remote control.
- 17.1.C.9 Check the play of the extensions.
- 17.1.C.10 Check the moment limiting sensor.
- 17.1.C.11 Check the lifting limiting sensor. (Load limiting device)
- 17.1.C.12 Check the hoist's stroke limiter.
- 17.1.C.13 Check the operation of the emergency shut-offs.
- 17.1.C.14 For all the anomalies detected, the costs will be adjusted on a PWPC Form 1379.

### **17.1.D Proof of performance**

#### **17.1.D.1 Inspection points**

- 17.1.D.1.1 All the work must be completed to the satisfaction of the Chief Engineer, the person in charge of maintenance of the vessel and the ABS inspector.

#### **17.1.D.2 Tests and trials**

- 17.1.D.2.1 The contractor will have to prove to the Chief Engineer and the Technical Authority (TA) that the equipment works well and safely.

#### **17.1.D.3 Certification**

- 17.1.D.3.1 The contractor must provide the Chief Engineer with two (2) paper copies of the annual inspection certificates (T1) with their original copy. The Contractor will also send an electronic copy of the annual inspections to the person in charge of maintenance of the vessel.

#### **17.1.D.4 Documentation**

- 17.1.D.4.1 The technician must submit a written report in paper and electronic copies no later than five days after the end of the work.

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- The report must contain the following items:
- Date of the work and date of the report
- Description of the work performed
- List of equipment all the parts replaced or installed.
- T1 certificate for hoisting equipment

### 17.1.D.5 **Training**

N/A

## **18.0 Communications and Navigation**

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

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

- 18.1.A.1 The contractor will be responsible to conducting the inspection of the radio and navigation equipment and producing the inspection certificate in accordance with the requirements of the ABS classification of 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) 1X EPIRB Class 1
- b) 1 x Furuno Masthead radar 12 kw X-Band.
- c) Power supply for radio.
- d) Batteries including emergency lighting
- e) DGPS-AIS SAAB-R5

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### 18.1.B.2 Drawings

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

Drawing number	DRAWING TITLE	Number of sheets
	N/A	

### 18.1.B.3 Regulations and standards

18.1.B.3.1 Canada Shipping Act, 2001

### 18.1.C Statement of work

18.1.C.1 Proceed with the inspection of the equipment mentioned in 18.1.B.1. according to the manufacturers' manuals while complying with the ABS rules and practices.

### 18.1.D Proof of performance

#### 18.1.D.1 Inspection points

18.1.D.1.1 All the work must be completed to the satisfaction of the Chief Engineer and the ABS inspector.

#### 18.1.D.2 Tests and trials

18.1.D.2.1 The tests will be run in accordance with the ABS society rules.

#### 18.1.D.3 Certification

18.1.D.3.1 The contractor must provide the Chief Engineer with two (2) paper copies of the maintenance certificates with their original copy. The Contractor will also send an electronic copy of the certificate to the person in charge of maintenance of the vessel.

#### 18.1.D.4 Documentation

18.1.D.4.1 N/A

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18.1.D.5 **Training**

18.1.D.5.1 [N/A]

## **19.0 Control Systems**

**19.1 N/A**