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Gatineau, Québec K1A 0S5

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**SOLICITATION AMENDMENT  
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise  
indicated, all other terms and conditions of the Solicitation  
remain the same.

Ce document est par la présente révisé; sauf indication contraire,  
les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| <b>Title - Sujet</b> CCGS George R. Pearkes - VLE                                                                                                                      |                                             |
| <b>Solicitation No. - N° de l'invitation</b><br>F7049-200083/A                                                                                                         | <b>Amendment No. - N° modif.</b><br>001     |
| <b>Client Reference No. - N° de référence du client</b><br>F7049-200083                                                                                                | <b>Date</b><br>2022-02-24                   |
| <b>GETS Reference No. - N° de référence de SEAG</b><br>PW-\$\$MD-029-28531                                                                                             |                                             |
| <b>File No. - N° de dossier</b><br>029md.F7049-200083                                                                                                                  | <b>CCC No./N° CCC - FMS No./N° VME</b>      |
| <b>Solicitation Closes - L'invitation prend fin</b><br><b>at - à 02:00 PM</b> Eastern Daylight Saving Time EDT<br><b>on - le 2022-06-07</b> Heure Avancée de l'Est HAE |                                             |
| <b>F.O.B. - F.A.B.</b><br><b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>       |                                             |
| <b>Address Enquiries to: - Adresser toutes questions à:</b><br>Jeddi, Loubna                                                                                           | <b>Buyer Id - Id de l'acheteur</b><br>029md |
| <b>Telephone No. - N° de téléphone</b><br>(873) 45--383 ( )                                                                                                            | <b>FAX No. - N° de FAX</b><br>(819) -       |
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| <b>Name and title of person authorized to sign on behalf of Vendor/Firm</b><br><b>(type or print)</b><br><b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b><br><b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b> |                                              |
| <b>Signature</b>                                                                                                                                                                                                                                               | <b>Date</b>                                  |

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### **Solicitation Amendment # 001**

**This amendment is hereby raised :**

- 1. To include Questions and the Responses for the solicitation.**
- 2. To update Annex A - Statement of Work (SOW), Part C SOW Item E-01 section 3.1.19.**
- 3. To update Annex A - Statement of Work (SOW), Part C SOW Item E-10 section 3.6.**
- 4. To update Annex H – PDS – Add lines to Part B related to SOW items H-37, H-38 and H-39 change description - sheet 1 and change line 3.1.5 in SOW item H-13.**
- 5. To update Annex A - Statement of Work (SOW), Add SOW items H-37, H-38 and H-39 to Part B.**

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#### **1. Questions and the Responses for the solicitation.**

**Q#1:** The St. Lawrence Seaway is closed during the winter months and usually re-opens on the 24th of March. Please advise if the proposed work period identified in section 2.7.2 excludes Great Lakes Shipyards from submitting a bid for this project. If the proposed work period does exclude Great Lakes Shipyards, we respectfully request the completion date be shifted to March 24th, 2024, or the opening of the 2024 navigation season.

**A#1:** Yes. The revised Dry dock working completion date will be **March 24th, 2024.**

**Q#2:** Is there a specific section where I can find info on the cycloconverter frequency convertor and calorifier?

**A#2:** Please Refer to Item SOW E-02 for cycloconverter and item SOW H-14 for calorifier.

#### **2. To update Annex A - Statement of Work (SOW), Part C SOW Item E-01 section 3.1.19.**

Under E-01 - Propulsion Generator Replacement:

- Add the following to section 3.1.19:

The Centre propulsion generator must not be disposed of by the Contractor. This unit must be placed in indoor, heated, environmentally controlled storage by the Contractor directly after its removal from the vessel. This entire propulsion generator must remain as one complete unit and wrapped, protected and crated by the Contractor to the satisfaction of the CCG TA/IA in preparation for shipping. CCG will arrange for the pickup of this engine and truck/flatbed for removal from the Contractor's facility, however, the Contractor must provide all craneage, rigging, forklifts and labour required to load and secure this unit onto the truck/flatbed. The other two engines must be disposed of in their entirety as per provincial regulations as detailed in the existing SOW item.

#### **3. To update Annex A - Statement of Work (SOW), Part C SOW Item E-10 section 3.6.**

Under E-10 – Anchor windlass survey:

- Section 3.6 deleted in its entirety.

The entire deck area underneath and around the anchor windlass, including the entire seating arrangement that the unit is mounted on, must be cleaned/degreased, prepared and coated as detailed in SOW item H-39 – Deck Coatings. UT shots must be taken on the focsle deck area and must be covered in the UT shot allowance detailed in section 12.1 of SOW item H-01 – Services.

- 4. To update Annex H – PDS – Add lines to Part B related to SOW items H-37, H-38 and H-39 and change line 3.1.5 in SOW item H-13.**

Attachment annexes H Rev 1.zip is revised.

“Final amount will be prorated” deleted in section 3.1.5 in SOW item H-13 and replaced by “for adjustment purposes if required”.

- 5. To update Annex A - Statement of Work (SOW), Add SOW items H-37, H-38 and H-39 to Part B.**

## H-37 SUPERSTRUCTURE COATINGS

### 1.0 Scope

- 1.1 The intent of this specification is to clean, prepare and coat the entire superstructure of the vessel.
- 1.2 This work must be carried out in conjunction with the following specification items:
- H-03 Hull Cleaning and Painting
  - H-31 Hangar Refurbishment and Steel Renewals
  - H-38 Mast Coatings
  - H-39 Deck Coatings
  - E-01 Propulsion Generator Replacement
- 1.3 It is the responsibility of the Contractor to ensure that all requirements specified in PART A of this Statement of Work, i.e. the General Sections (including sections 1 to 12) are taken into consideration and applied to this specification item's defined work requirements. This SOW item may mention certain specific requirements from PART A. However, this does not exempt the Contractor from considering and including any other references from PART A that should also be applied and included for this specification item's work. ALL requirements must be assessed and included, when applicable, for the work described in this SOW item. In cases of discrepancy between content sources, the content in this SOW item must take precedence.

### 2.0 References

#### 2.1 Standards

- Fleet Safety and Security Manual (DFO/5737)
- CSA W47.1 1983 – Canadian Welding Bureau Standards for the fusion welding of steel
- CSA W47.2 – M1987(R1998) – Canadian Welding Bureau Standard for the fusion welding of aluminum and aluminum alloys
- Society for Protective Coatings (SSPC) Standards

#### 2.2 Regulations

- Canada Shipping Act 2001 – Marine Machinery Regulations
- MOSH Regulations

#### 2.3 Documents

- H-0023 General Arrangement - Elevation
- H-0025 General Arrangement - Decks

- H-01-61\_1 & 2 Superstructure Construction Drawings
- H-2860 Windows and Sidelights

## 2.4 Owner/Contractor Furnished Equipment

- 2.4.1 The Contractor must supply all materials, equipment, and parts required to perform the specified work unless otherwise stated.
- 2.4.2 CCG will provide a NACE level II Coatings Inspector, who will be part of the CCG On-site team, to oversee all painting required by this SOW item. The Contractor will be responsible to ensure that all surface preparation, paint applications, dry film thickness, etc. are to the satisfaction of the NACE Inspector.
- 2.4.3 It is the Contractor's responsibility to arrange for the CCG NACE inspector to be present at the required times to inspect the surface preparation, level of cleanliness and all paint applications. Coatings applied at each stage must also be to the satisfaction of the CCG NACE Inspector and be approved prior to applying the next coat.

## 3.0 Technical Description

### 3.1 General

- 3.1.1 The intent of this SOW item is to renew the vessels entire superstructure coatings. The complete superstructure area spans the entire width of the vessel from the front of the superstructure at approximately Frame 115 on the main deck at the forward bulkhead of the Wire Leads Compartment to the end of the ship at frame -11. It extends vertically from the main deck to the top of the wheelhouse (including all bulkheads, landings, posts and supports/brackets on the wheelhouse top) and main engine stack and includes all stairwells, railings and external door areas. The contractor is responsible for measuring and confirming all surface areas.



Highlight of the entire Superstructure area to have coatings renewed as part of this specification



Front View – The entire superstructure, starting from the forward bulkhead of the Wire Leads Compartment on the main deck, must have the coatings renewed.

- 3.1.2 Prior to starting any cleaning or preparation work, the Contractor must protect and securely cover all lighting, windows, doorways, vents and louvers with Masonite, tarps and heavy sheet plastic as required. All external drains, including ½" drains under each sliding window, must all be securely plugged. It is the responsibility of the Contractor to ensure that no water, grit or ingress can enter the ship at any time. Any damage to the vessel or additional cleaning required due to any coating/prep debris entering the ship must be corrected by the Contractor at their expense.
- 3.1.3 The contractor must wrap and tape all deck equipment and machinery to protect all components from all cleaning, blasting and coating activities. Any damage done to any vessel equipment, machinery or parts from any blasting or coating activities must be fixed or replaced at the expense of the Contractor.
- 3.1.4 Hold Point – A walkthrough of the vessel must be done with the CCGTA/IA to ensure that all areas are suitably covered over and protected prior to the start of any cleaning.
- 3.1.5 The Contractor must identify, remove, store and re-install any interference items necessary to carry out the work detailed in this specification. All temporarily removed items must be safely stored and labelled for future re-installation.
- 3.1.6 The Contractor must supply all materials and equipment required to carry out the work detailed in this SOW item. This includes all work required to gain access to the complete superstructure area including all scaffolding, staging, manlifts and crantage as required.
- 3.1.7 The contractor must note that on the Upper deck level there is both an internal and external superstructure section inboard and outboard of the port/stbd alleyways/breezeways and aft deck. The entire inboard and outboard sections of these areas must be cleaned, prepped and coated in their entirety as further detailed in this specification. The entire alleyway/breezeway and Aft deck deckhead area on the Upper deck level must also be cleaned, prepped and coated in its entirety as further detailed in this SOW item.



Side view of the upper deck. Both the internal and external sections (white), as well as the complete deckhead area, must be completely cleaned, prepped and coated as detailed in this specification.

- 3.1.8 All work must be carried out to the satisfaction of the CCG TA/IA and NACE inspector. As noted in Section 2.4 above, the Contractor must arrange and coordinate inspections by the CCG TA/IA and NACE inspector at each step of the cleaning, prep and coating processes. Any work carried out without the proper inspections must be re-done by the Contractor at their own expense.
- 3.1.9 The Contractor is responsible for ensuring that all cleaning, preparatory and coating work must be carried out as per the paint manufacturer's recommended guidelines. The Contractor must be responsible for any sheltering/encapsulation, heating, ventilation (forced air) to meet all required environmental conditions necessary. All of these costs must be included in the Contractor's firm pricing for this SOW item.
- 3.2 Cleaning and Blasting
- 3.2.1 The contractor must high pressure wash and de-grease the entire superstructure area to an SP-1 standard, at a minimum of 3,000 PSI, to remove all dirt, debris and salt prior to beginning any grit blasting.
- 3.2.2 The Contractor must supply and use an environmentally safe cleaning agent to ensure that all grease, dirt and salts are completely removed. The CCG TA must approve of this cleaning agent prior to being used.
- 3.2.3 The Contractor must contain all loose paint and debris during pressure washing and carry out all disposals as per Provincial regulations.
- 3.2.4 The Contractor must remove and dispose of any excess water and must ensure that the entire superstructure area is dry prior to the beginning of grit blasting.



- 3.2.5 After receiving cleaning approval from the CCG TA/IA and NACE inspector, all areas of loose, flaky coatings must be grit blasted to an SP-10 standard, near white metal blast. All edges must be feathered back 2-3 cm to adhered coatings.
- 3.2.6 For estimating purposes, the Contractor must assume that 30% of the superstructure will require blasting to bare metal. The Contractor must provide a unit cost for 20 m<sup>2</sup> of blasting and coating in case an adjustment of the total bare metal blasting and coating is required. Adjustments will be done by means of PWGSC 1379 adjustment.
- 3.2.7 All remaining intact superstructure coatings must be swept blasted to an SP-7 standard.
- 3.2.8 The Contractor must note that the presence of lead has been detected in certain sections of the vessels superstructure coatings in the past. Therefore, the Contractor must strictly follow all federal and provincial regulations when carrying out the removal and disposal of these coatings. All costs related to the sheltering of the vessel or containment and disposal of paint, grit, debris or related materials must be included in the contractor's firm pricing for this SOW item. The Contractor must reference the attached 2020 and 2021 Pearkes Lead Coating Assessments for further details on the presence of lead coatings.

### 3.3 Coatings

- 3.3.1 The Contractor must ensure that the entire superstructure is dry and clean of all debris and dust prior to the application of any coatings. Any remaining traces of grit must be completely swept away with compressed air and properly disposed of.
- 3.3.2 All coatings must be applied prior to oxidization/rusting. Any areas that show signs of oxidization must be cleaned and blasted again at the expense of the Contractor.
- 3.3.3 The Contractor must apply coatings as per the following:
  - 1. All blasted, bare metal areas must be coated with a primer coat of Interprime 234 at 3 mils.
  - 2. The entire Superstructure area must then receive a full coat of Interprime 234 at 3 mils.
  - 3. After both primer coats are complete, the entire superstructure area must receive 2 full coats of Interlac 665 white at 3 mils per coat.
  - 4. The Canadian Leaf on each side of the stack (port & stbd) and the Canada name/logo, on each side of the forward superstructure (port & stbd) must be re-applied in their existing locations with Interlac 665 CG Red and Black at 3 mils upon the application of both top coats.
  - 5. All railings and stairwells must also receive 2 complete coats of Interlac 665 white/black at 3 mils per coat, as per the existing coating arrangement.

Note: The Contractor must reference the Canadian Coast Guard Fleet Identity Program. If there are any discrepancies, all final colors must align with this document.

- 3.3.4 As part of Specification item H-31 – Hangar Refurbishment and Steel Replacement – the helicopter hangar must be removed from the vessel and temporarily stored by the Contractor while the deck renewals are being carried out. While the sections of the hangar are temporarily removed, the Contractor must completely clean and coat all sections of the hangar as detailed in section 3.2 – 3.3 of this SOW item.
- 3.3.5 All coatings on the hangar areas must be complete prior to their re-installation on the vessel. New gaskets and hardware must not be coated and must be installed after all coatings on the hangar sections are complete.



- 3.3.6 Upon the completion of all coatings and acceptance from the CCG IA/TA and NACE inspector, the contractor must proceed to reinstall all temporarily removed interference items. Any disconnected electronics must be megger tested by the Contractor and witnessed by the vessels electrical officer.
- 3.3.7 The Contractor must clean up and dispose of all excess coatings, materials and related debris as per provincial regulations. All affected areas of the vessel must be delivered back to CCG in "As Delivered" condition upon the completion of work.

## **4.0 Proof of Performance**

### **4.1 Inspections**

- 4.1.1 All work must be carried out with the approval of the CG TA/IA and NACE inspector.
- 4.1.2 The Contractor must arrange for the NACE Inspector to inspect all stages of the cleaning, surface preparation and paint application process for the superstructure. This includes environmental conditions, steel surface temperatures, equipment, preparation, mixing and the application processes.

### **4.2 Tests**

- 4.2.1 As a minimum the Contractor must arrange to take sixty (60) wet film thickness measurements; thirty (30) per side, in areas where the superstructure has been cleaned to bare steel. These measurements must be witnessed by the CCG NACE inspector and recorded with locations referenced to the attached shell expansion drawing. Unwitnessed measurement will not be accepted.
- 4.2.2 Using a calibrated DFT gauge, a minimum fifteen (15) measurements per 9.28 m<sup>2</sup> (100 ft<sup>2</sup>) must be taken and recorded, at an agreed upon consistency with the TA and the GG/ NACE Inspector.

## **5.0 Deliverables**

### **5.1 Drawings/Reports**

- 5.1.1 The Contractor must provide the TA with a final report, consisting of two (2) typewritten copies and one (1) electronic copy, in PDF format – containing the following information as the minimum:
- The areas of the superstructure that were repaired.
  - The areas that were blasted, the blast media type and air pressure.
  - The areas that were coated, with what product, and the volume of coating used.
  - A list of batch numbers with corresponding dates of manufacture.
  - The record of quantity and type of any solvent added.
  - Measured and recorded of all of the daily ambient conditions (air and steel temperature, humidity, barometric pressure).
  - Recoded details of all spray tips and pressures used.

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F7049-200083/A  
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F7049-200083

Amd. No. - N° de la modif.  
001  
File No. - N° du dossier  
029md F7049-200083

Buyer ID - Id de l'acheteur  
029md  
CCC No./N° CCC - FMS No./N° VME

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- All WFT and DFT readings taken as prescribed in this SOW item.

## 5.2 Certification

- ### 5.2.1
- Typed copies of the inspections reports must be provided to the TA after completion of the work.

## **H-38 MAST COATINGS**

### **1.0 Scope**

- 1.1 The intent of this SOW item is to clean, prepare and coat all of the vessel's masts – The Main Mast, Aft Mast and two (2) smaller forward masts and bell post located on the focsle deck.
- 1.2 This work must be carried out in conjunction with the following specification items:
- H-37 Superstructure Coatings
  - H-39 Deck Coatings
- 1.3 It is the responsibility of the Contractor to ensure that all requirements specified in PART A of this Statement of Work, i.e. the General Sections (including sections 1 to 12) are taken into consideration and applied to this SOW item's defined work requirements. This SOW item may mention certain specific requirements from PART A. However, this does not exempt the Contractor from considering and including any other references from PART A that should also be applied and included for this SOW item's work. ALL requirements must be assessed and included, when applicable, for the work described in this specification item. In cases of discrepancy between content sources, the content in this SOW item must take precedence.

### **2.0 References**

#### **2.1 Standards**

- Fleet Safety and Security Manual (DFO/5737)
- CSA W47.1 1983 – Canadian Welding Bureau Standards for the fusion welding of steel
- CSA W47.2 – M1987(R1998) – Canadian Welding Bureau Standard for the fusion welding of aluminum and aluminum alloys
- Society for Protective Coatings (SSPC) Standards

#### **2.2 Regulations**

- Canada Shipping Act 2001 – Marine Machinery Regulations
- MOSH Regulations

#### **2.3 Documents**

- H-29-10 Main Mast and Aft Mast
- H-0019 General Arrangement Focsle Deck
- H-0023 General Arrangement – Elevation
- H-0024 General Arrangement – Bridge, Nav. Officers, Boat Decks
- H-0025 General Arrangement - Decks
- H-01-61\_1 & 2 Superstructure Construction Drawings

## 2.4 Owner/Contractor Furnished Equipment

- 2.4.1 The Contractor must supply all materials, equipment, and parts required to perform the specified work unless otherwise stated.
- 2.4.2 CCG will provide a NACE level II Coatings Inspector, who will be part of the CCG On-site team, to oversee all painting required by this SOW item. The Contractor will be responsible to ensure that all surface preparation, paint applications, dry film thickness, etc. are to the satisfaction of the NACE Inspector.
- 2.4.3 It is the Contractor's responsibility to arrange for the CCG NACE inspector to be present at the required times to inspect the surface preparation, level of cleanliness and all paint applications. Coatings applied at each stage must also be to the satisfaction of the CCG NACE Inspector and be approved prior to applying the next coat.

## 3.0 Technical Description

### 3.1 General

- 3.1.1 The intent of this SOW item is to renew the coatings on the vessels masts. This includes the Main and Aft masts, including ladders, platforms, arms and brackets, located directly Forward and Aft of the main engine stack and the two smaller masts and bell post located on the focsle deck. The Contractor is responsible for measuring and confirming all surface areas.
- 3.1.2 Prior to starting any cleaning or preparation work, the Contractor must identify, temporarily remove and store all interference items as required to carry out the work detailed in this specification. All temporarily removed items must be safely stored and labelled for future re-installation.
- 3.1.3 The contractor must securely wrap and tape all machinery, lighting, electronics, cabling and glands in the area of the masts that could be affected by these coating renewals. All external drains, including ½" drains under each sliding window, must all be securely plugged. Any damage done to any vessel equipment, machinery or parts from any preparation or coating activities must be fixed or replaced at the expense of the Contractor.
- 3.1.4 Hold Point – A walkthrough of the masts must be done with the CGTA/IA to ensure that all areas are suitably covered over and protected prior to the start of any cleaning.
- 3.1.5 The Contractor must supply all materials and equipment required to carry out the work detailed in this specification. This includes all work required to gain access to the complete area of all masts detailed in this specification including all scaffolding, staging, manlifts and crane as required.
- 3.1.6 All work must be carried out to the satisfaction of the CG TA/IA and NACE inspector. As noted in Section 2.4 above, the Contractor must arrange and coordinate inspections by the CG TA/IA and NACE inspector at each step of the cleaning, prep and coating processes. Any work carried out without the proper inspections must be re-done by the Contractor at their own expense.

3.1.7 The Contractor is responsible for ensuring that all cleaning, preparatory and coating work must be carried out as per the paint manufacturer's recommended guidelines. The Contractor must be responsible for any sheltering/encapsulation, heating, ventilation (forced air) to meet all required environmental conditions necessary. All of these costs must be included in the Contractor's firm pricing for this specification item.

## 3.2 Cleaning and Powertooling

- 3.2.1 The contractor must pressure wash and de-grease the four (4) masts to an SP-1 standard, at a minimum of 3,000 PSI, to remove all dirt, debris and salt prior to beginning any powertooling. The Contractor must take extra caution around all electronics, cabling and related equipment to ensure that nothing is damaged during the cleaning process. Any damages to vessel equipment or components must be fixed or replaced at the Contractor's expense.
- 3.2.2 The Contractor must supply and use an environmentally safe cleaning agent to ensure that all grease, dirt and salts are completely removed. The CCG TA must approve of this cleaning agent prior to being used.
- 3.2.3 The Contractor must contain all loose paint and debris during pressure washing and carry out all disposals as per Provincial regulations.
- 3.2.4 The Contractor must remove and dispose of any excess water and must ensure that the entire superstructure area is dry prior to the beginning of powertooling.
- 3.2.5 After receiving cleaning approval from the CG TA/IA and NACE inspector, all areas of loose, flaky coatings must be powertooled to an SP-11, bare metal, standard. All edges must be feathered back 2-3cm to adhered coatings.
- 3.2.6 For estimating purposes, the Contractor must assume that 50% of the masts will require powertooling to bare metal. The Contractor must provide a unit cost for 5 m<sup>2</sup> of powertooling and coating in case an adjustment of the total bare metal powertooling and coating is required. Adjustments will be done by means of PWGSC 1379 adjustment.
- 3.2.7 The entire remaining intact coating areas of all masts must be powertooled to an SP-3 standard.

## 3.3 Coatings

- 3.3.1 The Contractor must ensure that the entire masts are dry and clean of all debris and dust prior to the application of any coatings.
- 3.3.2 All coatings must be applied prior to oxidization/rusting. Any areas that show signs of oxidization must be cleaned and powertooled again at the expense of the Contractor.
- 3.3.3 The Contractor must apply coatings as per the following:
6. All powertooled, bare metal areas must be coated with a primer coat of Interprime 234 at 3 mils.
  7. All masts must then receive a full coat of Interprime 234 at 3 mils.
  8. After both primer coats are complete, the Main and Aft masts must receive two (2) full coats of Interlac CG 665 buff and black at 3 mils each coat to match the existing coating scheme.
  9. The two forward masts and bell post on the focsle deck must all receive two (2) full coats of Interlac 665 CG buff at 3 mils each coat.

Note: The Contractor must reference the Canadian Coast Guard Fleet Identity Program. If there are any discrepancies, all final colors must align with this document.

- 3.3.4 Upon the completion of all coatings and acceptance from the CCG IA/TA and NACE inspector, the contractor must proceed to reinstall all temporarily removed interference items. Any disconnected electronics must be megger tested by the Contractor and witnessed by the vessels electrical officer.
- 3.3.5 The Contractor must clean up and dispose of all excess coatings, materials and related debris as per provincial regulations. All affected areas of the vessel must be delivered back to CCG in "As Delivered" condition upon the completion of work.

## **4.0 Proof of Performance**

### **4.1 Inspections**

- 4.1.1 All work must be carried out with the approval of the CG TA/IA and NACE inspector.
- 4.1.2 The Contractor must arrange for the NACE Inspector to inspect all stages of the cleaning, surface preparation and paint application process for the masts. This includes environmental conditions, steel surface temperatures, equipment, preparation, mixing and the application processes.

### **4.2 Tests**

- 4.2.1 As a minimum the Contractor must arrange to take sixty (60) wet film thickness measurements; thirty (30) per side, in areas where the masts have been cleaned to bare steel. These measurements must be witnessed by the CCG NACE inspector and recorded with locations referenced to the attached shell expansion drawing. Unwitnessed measurement will not be accepted.
- 4.2.2 Using a calibrated DFT gauge, a minimum fifteen (15) measurements per 9.28 m<sup>2</sup> (100 ft<sup>2</sup>) must be taken and recorded, at an agreed upon consistency with the TA and the GG/ NACE Inspector.

## **5.0 Deliverables**

### **5.1 Drawings/Reports**

- 5.1.1 The Contractor must provide the TA with a final report, consisting of two (2) typewritten copies and one (1) electronic copy, in PDF format – containing the following information as the minimum:
- The areas of the masts that were repaired.
  - The areas that were powertooled.
  - The areas that were coated, with what product, and the volume of coating used.
  - A list of batch numbers with corresponding dates of manufacture.
  - The record of quantity and type of any solvent added.

- Measured and recorded of all of the daily ambient conditions (air and steel temperature, humidity, barometric pressure).
- Recorded details of all spray tips and pressures used.
- All WFT and DFT readings taken as prescribed in this specification.

## 5.2 Certification

- 5.2.1 Typed copies of the inspections reports must be provided to the TA after completion of the work.



## H-39 DECK COATINGS

### 1.0 Scope

- 1.1 The intent of this specification is to clean, prepare and coat all of the vessel's external decks as well as the inner bulwark areas specifically on the Main, Focsle and Upper decks.
- 1.2 This work must be carried out in conjunction with the following SOW items:
- H-03 Hull Cleaning and Painting
  - H-31 Hangar Refurbishment and Steel Replacements
  - H-37 Superstructure Coatings
  - H-38 Mast Coatings
  - E-10 Anchor Windlass Survey
- 1.3 It is the responsibility of the Contractor to ensure that all requirements specified in PART A of this Statement of Work, i.e. the General Sections (including sections 1 to 12) are taken into consideration and applied to this specification item's defined work requirements. This specification item may mention certain specific requirements from PART A. However, this does not exempt the Contractor from considering and including any other references from PART A that should also be applied and included for this specification item's work. ALL requirements must be assessed and included, when applicable, for the work described in this specification item. In cases of discrepancy between content sources, the content in this specification item must take precedence.

### 2.0 References

#### 2.1 Standards

- Fleet Safety and Security Manual (DFO/5737)
- CSA W47.1 1983 – Canadian Welding Bureau Standards for the fusion welding of steel
- CSA W47.2 – M1987(R1998) – Canadian Welding Bureau Standard for the fusion welding of aluminum and aluminum alloys
- Society for Protective Coatings (SSPC) Standards

#### 2.2 Regulations

- Canada Shipping Act 2001 – Marine Machinery Regulations
- MOSH Regulations

#### 2.3 Documents

- H-0005 Main Deck
- H-0007 Upper Deck
- H-0008 Boat Deck
- H-0009 Officer and Bridge Deck

- H-0016-18 General Arrangements – Accommodations Main, Upper
- H-0019 General Arrangement Focsle Deck
- H-0020-21 General Arrangements – Accommodations Boat, Bridge
- H-0023 General Arrangement – Elevation
- H-0024 General Arrangement – Bridge, Nav. Officers, Boat Decks
- H-0025 General Arrangement - Decks
- H-2740 Manholes & Access Covers
- H-2860 Windows and Sidelights

## 2.4 Owner/Contractor Furnished Equipment

- 2.4.1 The Contractor must supply all materials, equipment, and parts required to perform the specified work unless otherwise stated.
- 2.4.2 CCG will provide a NACE level II Coatings Inspector, who will be part of the CCG On-site team, to oversee all painting required by this SOW item. The Contractor will be responsible to ensure that all surface preparation, paint applications, dry film thickness, etc. are to the satisfaction of the NACE Inspector.
- 2.4.3 It is the Contractor's responsibility to arrange for the CCG NACE inspector to be present at the required times to inspect the surface preparation, level of cleanliness and all paint applications. Coatings applied at each stage must also be to the satisfaction of the CCG NACE Inspector and be approved prior to applying the next coat.

## 3.0 Technical Description

### 3.1 General

- 3.1.1 The intent of this specification is to renew the coatings on all of the vessels external deck areas. The decks are as follows:
  - Main and Focsle Decks – Renewal of coatings up to, and including, the top of the bulwarks (black railing). This includes the Wire Leads Compartment Deck and top, where the base of the Speed Crane sits, and all deck framing, foundations/seats, hatches and mooring bollards.
  - Upper Deck - Renewal of coatings up to, and including, the top of the bulwarks (black railing), and all deck framing, foundations/seats, hatches and mooring bollards.
  - Helicopter/Boat Deck
  - Officer's Deck
  - Bridge/Wheelhouse Deck
  - Wheelhouse Top – Including the top of the AC house and all upper landings located above the bridge deck.

Note: The Contractor is responsible for measuring and confirming all surface areas.

- 3.1.2 Prior to starting any cleaning or preparation work, the Contractor must protect and securely cover all lighting, windows, doorways, vents and louvers with Masonite, tarps and heavy sheet plastic as required. All tank covers, hatches and external drains, including ½" drains under each sliding window, must all be securely closed or plugged. It is the responsibility of

- the Contractor to ensure that to ensure that no water, grit or ingress can enter the ship at any time. Any damage to the vessel or additional cleaning required due to any coating/prep debris entering the ship must be corrected by the Contractor at their expense.
- 3.1.3 The contractor must wrap and tape all deck equipment and machinery to protect all components from all cleaning, blasting and coating activities. Any damage done to any vessel equipment, machinery or parts from any blasting or coating activities must be fixed or replaced at the expense of the Contractor.
- 3.1.4 Hold Point – A walkthrough of all deck areas must be done with the CGTA/IA to ensure that all areas are suitably covered over and protected prior to the start of any cleaning.
- 3.1.5 The Contractor must identify, remove, store and re-install any interference items necessary to carry out the work detailed in this specification. All temporarily removed items must be safely stored and labelled for future re-installation. The contractor must note that specifically on the Aft portion of the upper deck, there are rope reels and related mooring devices that will have to be temporarily removed, stored and re-installed upon the completion of coatings.
- 3.1.6 On the main deck, the contractor must temporarily remove all wooden dunnage on the deck, store and re-install upon the completion of all deck coatings. Any framing/angles that must be released in order to remove the dunnage must be re-welded after the re-installation of all dunnage and welds tested with 100% MPI.
- 3.1.7 The Contractor must supply all materials and equipment required to carry out the work detailed in this specification. This includes all work required to gain access to all deck areas detailed in this specification including all scaffolding, staging, manlifts and craneage as required.
- 3.1.8 All work must be carried out to the satisfaction of the CCG TA/IA and NACE inspector. As noted in Section 2.4 above, the Contractor must arrange and coordinate inspections by the CCG TA/IA and NACE inspector at each step of the cleaning, prep and coating processes. Any work carried out without the proper inspections must be re-done by the Contractor at their own expense.
- 3.1.9 The Contractor is responsible for ensuring that all cleaning, preparatory and coating work must be carried out as per the paint manufacturer's recommended guidelines. The Contractor must be responsible for any sheltering/encapsulation, heating, ventilation (forced air) to meet all required environmental conditions necessary. All of these costs must be included in the Contractor's firm pricing for this SOW item.



Photo looking forward at the main and focsle decks from the Wire Compartment Deck. In addition to the renewal of all external deck area coatings, the entire main, focsle and upper deck inner bulwark area coatings must be completely renewed up to, and including, the top black railing. The wooden dunnage on the main deck must all be temporarily removed, stored and re-installed in order to carry out all coating repairs.

## 3.2 Cleaning and Blasting

- 3.2.1 The contractor must pressure wash and de-grease all deck and inner bulwark areas to an SP-1 standard, at a minimum of 3,000 PSI, to remove all dirt, debris and salt prior to beginning any blasting activities.
- 3.2.2 The Contractor must supply and use an environmentally safe cleaning agent to ensure that all grease, dirt and salts are completely removed from the deck and inner bulwark areas. The CCG TA must approve of this cleaning agent prior to being used.
- 3.2.3 The Contractor must contain all loose paint and debris during pressure washing and carry out all disposals as per Provincial regulations.
- 3.2.4 The Contractor must remove and dispose of any excess water and must ensure that all decks are completely dry prior to the beginning of blasting.
- 3.2.5 After receiving cleaning approval from the CCG TA/IA and NACE inspector, all complete deck areas listed above in Section 3.1.1 must be completely grit blasted to an SP-6 standard, Commercial blast. This includes all attached frames, foundations and seats for all equipment

on all referenced decks. All inner bulwarks on the main, focsle and upper decks must be blasted to an SP-10, Near white Metal standard, up to and including the black area at the top of the bulwarks.

- 3.2.6 On the main deck, the contractor must temporarily remove all wooden dunnage on the deck, store and re-install upon the completion of all deck coatings. Any framing/angles that must be released in order to remove the dunnage must be re-welded after the re-installation of all dunnage and welds tested with 100% MPI.
- 3.2.7 The Contractor must note that, as referenced above in Section 3.2.5, on the main, focsle and upper decks they must grit blast existing coatings on the decks and the complete sides of the inner bulwarks up to, and including, the top of the bulwarks (black railing area). This includes all attached framing and structural members attached to the inner bulwark areas.
- 3.2.8 All deck hatches, tank covers, mooring bollards, dunnage framing and hold down pockets on the main, focsle and upper decks must also be blasted to an SP-6 standard in correlation with the deck blasting.
- 3.2.9 As part of Specification item H-31 – Hangar Refurbishment and Steel Replacement – the helicopter hangar must be removed from the vessel and temporarily stored by the Contractor while the deck renewals are being carried out. All Coating repairs to the helicopter deck area must be complete prior to the re-installation of the hangar sections. This includes the re-installation of all deck markings
- 3.2.10 The Contractor must note that the presence of lead has been detected in certain sections of the decks and the inner bulwark areas. Therefore, the Contractor must strictly follow all federal and provincial regulations when carrying out the removal and disposal of these coatings. All costs related to the sheltering of these areas, containment and disposal of paint, grit, debris or related materials must be included in the contractor's firm pricing for this SOW item. The Contractor must reference the attached 2020 and 2021 Pearkes Lead Coating Assessments for further details on the presence of lead coatings.

### 3.3 Coatings

- 3.3.1 The Contractor must ensure that all decks, bulwarks and related areas to be coated are dry and clean of all debris and dust prior to the application of any coatings.
- 3.3.2 All coatings must be applied prior to oxidization/rusting. Any areas that show signs of oxidization must be cleaned and blasted again at the expense of the Contractor.
- 3.3.3 The Contractor must apply coatings as per the following:
  - Decks
  - 10. One complete stripe coat of Intershield 300 at 2 mils
  - 11. One full coat of Intershield 300 at 5 mils
  - 12. One full coat of Intershield 6GV at 40 mils
  - 13. One full topcoat of Interthane 990 L274 Deck Red at 3 mils
  - 14. Upon the completion of all deck coatings, all related deck markings and framing on all decks must be re-applied with Interthane 990 Safety Yellow, White and Black as per the existing coating scheme in that area. All deck tank covers and hold down pockets must be re-coated with Interthane 990 Safety Yellow.

### **Bulwark Areas**

1. One complete stripe coat of Interprime 234 at 2 mils
2. One full coat of Interprime 234 at 3 mils
3. Two full topcoats of Interlac 665 Grey at 3 mils per coat on the inner bulwarks
4. The top bulwark railings must receive two full coats of Interlac 665 Black at 3 mils per coat

### **Hatches and Mooring Bollards**

1. One complete stripe coat of Intershield 300 at 2 mils
2. One full coat of Intershield 300 at 5 mils
3. Two full coats of Interthane 990 International Orange on hatches and Black on Bollards at 3 mils per coat
4. All removed stickers and markings must be replaced and installed by Contractor the in the same location as existing.

Note: The Contractor must reference the Canadian Coast Guard Fleet Identity Program. If there are any discrepancies, all final colors must align with this document.

- 3.3.4 Upon the completion of all coatings and acceptance from the CCG IA/TA and NACE inspector, the contractor must proceed to reinstall all temporarily removed interference items. Any disconnected electronics must be meggar tested by the Contractor and witnessed by the vessels electrical officer.
- 3.3.5 The Contractor must clean up and dispose of all excess coatings, materials and related debris as per provincial regulations. All affected areas of the vessel must be delivered back to CCG in "As Delivered" condition upon the completion of work.

## **4.0 Proof of Performance**

### **4.1 Inspections**

- 4.1.1 All work must be carried out with the approval of the CCG TA/IA and NACE inspector.
- 4.1.2 The Contractor must arrange for the NACE Inspector to inspect all stages of the cleaning, surface preparation and paint application process for the decks, bulwarks and related areas. This includes environmental conditions, steel surface temperatures, equipment, preparation, mixing and the application processes.

### **4.2 Tests**

- 4.2.1 As a minimum the Contractor must arrange take sixty (60) wet film thickness measurements; thirty (30) per side, in areas where the decks/bulwarks have been cleaned to bare steel. These measurements must be witnessed by the CCG NACE inspector and recorded with locations referenced to the attached shell expansion drawing. Unwitnessed measurement will not be accepted.

- 4.2.2 Using a calibrated DFT gauge, a minimum fifteen (15) measurements per 9.28 m<sup>2</sup> (100 ft<sup>2</sup>) must be taken and recorded, at an agreed upon consistency with the TA and the GG/ NACE Inspector.

## **5.0 Deliverables**

### **5.1 Drawings/Reports**

- 5.1.1 The Contractor must provide the TA with a final report, consisting of two (2) typewritten copies and one (1) electronic copy, in PDF format – containing the following information as the minimum:

- The areas of the decks and bulwarks that were repaired.
- The areas that were blasted, the blast media type and air pressure.
- The areas that were coated, with what product, and the volume of coating used.
- A list of batch numbers with corresponding dates of manufacture.
- The record of quantity and type of any solvent added.
- Measured and recorded of all of the daily ambient conditions (air and steel temperature, humidity, barometric pressure).
- Recorded details of all spray tips and pressures used.
- All WFT and DFT readings taken as prescribed in this specification.

### **5.2 Certification**

- 5.2.1 Typed copies of the inspections reports must be provided to the TA after completion of the work.