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DISMANTLING / DISPOSAL OF SHIPS

Former HMCS *PRESERVER* (PRE) And Former CFAV *QUEST*

Specification

Date: 13 FEB 2017

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Reference Documents

Protecteur Class

509-H-02-51430-01, PTR Class Docking Plan
HMCS PRESERVER SABILITY DATA/DRAWING
509-H-27-41297-01, PRE Mooring and Towing Arrangement
9251641, PRE General Arrangement (6 Sheets)
9665018, PTR Class Incident Board
Protecteur Class Manual of Trim and Stability- will be made available upon confirmation that contractor is controlled goods certified

AGOR –CFAV QUEST

201-H02-4200, Docking Plan (3 shts)
AVOR-MTS-01, Quest Stability Data/Drawing
9659165, General Arrangement
9659230, Fire Fighting Arrangement

CFAV QUEST Manual of Trim and Stability- will be made available upon confirmation that contractor is controlled goods certified

Critical Electronic Documentation, Reports that form part of this Statement of Work:

- Doc 1** Former HMCS *PRESERVER* - Controlled Goods Removal and Disposal Instructions
- Doc 2** Former CFAV *QUEST* - Controlled Goods Removal and Disposal Instructions
- Doc 3** Former HMCS *PRESERVER* – Museum Material Removal and Return Instructions
- Doc 4** Former CFAV *QUEST* – Museum Material Removal and Return Instructions
- Doc 5** Former HMCS *PRESERVER* - Environmental Assessment
- Doc 6** Former CFAV *QUEST* - Environmental Assessment

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1.0 PROJECT OVERVIEW

1.1 Introduction

This SOW is for the dismantling and disposal of (1) PROTECTEUR Class ship and (1) Auxiliary General Oceanographic Research (US DoD) Oceanographic Research Ship (DND) Specifically they are, Former HMCS *PRESERVER*, and Former CFAV *QUEST*.

The Former HMCS *PRESERVER* and Former CFAV *QUEST* are located at HMC Dockyard Halifax, NS.

The Contractor is to prepare each ship for transfer, transfer it to the Approved Site, demilitarize the controlled goods, return the museum material, and subsequently dismantle (dispose/recycle) the vessel in an efficient and environmentally responsible manner that is conforming to Canadian Laws and the terms of the contract.

1.2 Background

Former HMCS *PRESERVER*

The Former HMCS *PRESERVER* was built by Saint John Drydock and Shipbuilding Co. Ltd. The ship was commissioned 07 August 1970. She was last refit in HALIFAX, NS, at IRVING Shipyards in 2011 and reactivated to high readiness in summer of 2011. Former HMCS *PRESERVER* last sailed in 2014, but remained alongside Halifax as a fueller for the Fleet, using only her electric fueling pumps. She last pumped fuel in September 2016. All fuel tanks were pumped dry at that time. Her decommissioning and paying off ceremony was 21 October 2016. The current homeport of the Former HMCS *PRESERVER* is Canadian Forces Base (CFB) Halifax NS.

A database reflecting all spares and fitted systems to be removed has been prepared, and is referred to as the Master Equipment List (MEL). The database illustrates all systems and subsystems by Equipment Register Numbers (ERN), North Atlantic Treaty Organisation Stock Numbers (NSNs) and includes the location on board and accompanying pictures of the equipment.

In preparation for the disposal of the Former HMCS *PRESERVER* a formal and comprehensive Environmental Assessment (EA) has been carried out on board the ship. All environmental samplings have been verified by a third party for completeness. The EA for Former HMCS *PRESERVER* is included as a reference to this SOW. The EA is designed as a tool to help in the bid, and it is a snapshot of the ship at this time. Further comprehensive sampling may have to be done by the winning bidder.

The following controlled waste materials are present on the ships and the appropriate mitigation measures for each must be addressed by the Contractor:

- Mold is may be present on the ship;
- Asbestos-containing materials;
- Metals (including lead) in paint;
- Heavy metals in materials (flashing, solder, anodes etc.);
- Polychlorinated Biphenyl (PCB)-containing materials including PCBs in paint and cabling coating, and suspected to be in ventilation gasket;
- Mercury in electronic products;
- Ozone depleting substances (possible);
- Petroleum oil and lubricant residue;
- Silica – boiler brickwork.

Health and Safety: The possibility exists that asbestos and/or PCBs may be present. None of the ladders, guardrails, lifting or towing points remain in certification.

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Former CFAV *QUEST*

The Former CFAV *QUEST* is an Auxilliary General Oceanographic Research (US DoD) Oceanographic Research Ship (DND), and is now known as Former CFAV *QUEST*. She was built at Burrard Dry Dock Ltd, laid down 02 Oct 1967, and launched 09 July 1968. She was commissioned at Burrard Dry Dock 21 August 1969. The current homeport of the Former CFAV *QUEST* is Canadian Forces Base (CFB) Halifax NS. The last refit was conducted in 2013, and she stopped sailing in 2014.

In preparation for the disposal of the Former CFAV *QUEST* a formal and comprehensive Environmental Assessment (EA) has been carried out on board the ship by Naval Engineering Test Establishment (NETE) All environmental samplings have been verified by a third party for completeness. The EA for Former CFAV *QUEST* is included as a reference to this SOW.

A database reflecting all spares and fitted systems to be removed has been prepared. The database illustrates all systems and subsystems by Equipment Register Numbers (ERN), North Atlantic Treaty Organisation (NATO) Stock Numbers (NSNs) and includes the location on board and accompanying pictures of the equipment.

The following controlled waste materials are present on the ships and the appropriate mitigation measures for each must be addressed by the Contractor:

- Mold may be present throughout the vessel;
- Asbestos-containing materials;
- Metals (including lead) in paint;
- Heavy metals in materials (flashing, solder, anodes etc.);
- Polychlorinated Biphenyl (PCB)-containing materials including PCBs in paint and cabling coating, and suspected to be in ventilation gasket.
- Mercury in electronic products;
- Ozone depleting substances (possible);
- Petroleum oil and lubricant residue;
- Silica – boiler brickwork.

NOTE: None of the ladders, guardrails, lifting or towing points remain in certification on either Former HMCS *PRESERVER* or Former CFAV *QUEST*.

2.0 PREAMBLE

2.1 Particulars of the Vessel



Type Name	The Canadian Forces Auxiliary Vessel QUEST (AGOR- 172)
Name	CFAV QUEST
Year Built	Commissioned 21 AUGUST 1969
Principal Dimensions	
Length O.A	71.6m (235 ft)
Length B.P.	
Breadth Moulded	12.8 m (42 ft)
Depth Mld.	4.6m (15 ft)
Tonnages:	
Displacement	Approximately 2130 tons

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MAIN POWER: *Quest* is a diesel electric, twin shaft, twin rudder ship. She is equipped with two 10-cylinder Fairbanks-Morse 38D8 driving two GE electric motors. This gives the ship a speed of 15 knots (28 km/h; 17 mph). The vessel has an effective range of 10,000 nautical miles (19,000 km; 12,000 mi) at 12 knots (22 km/h; 14 mph) for 35 days.

ELECTRICAL: (2) two Detroit Diesel Generators, and (!) Solar Saturn Gas turbine generator.



Type Name	The Protecteur-class replenishment oilers
Name	HMCS PRESERVER
Year Built	Commissioned 07 August 1970
Principal Dimensions	
Length O.A	171.9 m (564 ft)
Length B.P.	162.5 m (533 ft)
Breadth Moulded	23.2 m (76 ft)
Depth Mld.	12.3 m (40.5 ft)
Tonnages:	
Displacement	Approximately 22,200 LT

2.2 Definitions

Acronyms

- AGOR Auxiliary General Oceanographic Research (US DoD)
- ACGIH American Conference of Governmental Industrial Hygienists
- ACM Asbestos Containing Materials
- CSODV Clean-up Standard for Ocean Disposal of Vessel, Environment Canada
- CGODV Clean-up Guideline for Ocean Disposal of Vessel, Environment Canada
- CFAV Canadian Forces Auxiliary Vessel
- DND Department of National Defence
- HMCS Her Majesty's Canadian Ship
- HSP Health and Safety Plan
- HSRT Health and Safety Response Team
- IA Inspection Authority (NDQAR and/or FLEETWAY Personnel)
- IEC Environment Canada Designated Inspector
- LCM Lead Containing Materials
- MSDS Materials Safety Data Sheet
- NDQAR National Defence Quality Assurance Representative
- OH&S Occupational Health and Safety
- OD box Oil Distribution box
- PCB Polychlorinated Biphenyls

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Port	Port side
PRE	PRESERVER
PRO	PROTECTEUR
PWGSC	Public Works and Government Services Canada
SOIQ	Solicitation of Interest Qualification
Stbd	Starboard side
TCMS	Transport Canada Marine Safety
U/W	Underwater
WCB	Worker's Compensation Board
WHMIS	Workplace Hazardous Materials Identification System

Definitions

“**Approved Site**” is any site or facility where the processes occur for cutting up the ship, handling and disposal of the hazardous waste and where the recycled materials are recycled. It includes a shipyard, dock, drydock or other facility where a ship is stripped and disassembled, and facilities or sites for the disposal of hazardous wastes or other wastes which are authorized or permitted to operate for this purpose by a relevant authority of the province where the site or facility is located.

“**Contractor**” is the legal entity that will contract with Canada to undertake the work.

“**Controlled goods**” are materiel assets designated as controlled goods, as defined in Part 2 of the *Defence Production Act*,

“**Controlled waste**” is as defined by the laws of the jurisdiction of the waste generator, handling facilities and disposal facilities. Controlled wastes are those wastes to which regulations of the jurisdiction having authority apply. This includes the Canadian federal government, the provincial governments in which the Approved Site reside, the local governments in which the Approved Site reside, as well as international conventions that have been adopted by the Government of Canada. Controlled wastes include hazardous wastes, non-hazardous, regulated wastes (such as asbestos-containing materials), recyclable materials and non-hazardous, unregulated wastes.

“**Demilitarization**” is an action that renders an item unusable for its intended military or strategic purpose and that is irreversible.

“**Hazardous waste**” is defined by the regulations of the government having jurisdiction at the Approved Site as defined above.

“**Hazardous material**” is any material that may pose a hazard to workers during the work.

“**ITAR**” is the U.S International Traffic in Arms Regulations that control the export and import of defence articles and services.

“**Museum material**” is material that will be removed by the Contractor, returned to DND and is owned by DND.

“**Recyclable material**” is any material that is intended for reuse or recovery for reuse, and includes scrap and waste materials other than accountable material, derived from the Contract.

“**Recyclable Owner**” of all Recyclable material is the Contractor, unless the Recyclable material is Museum material.

“**Waste**” means any material that requires disposal but is not a hazardous waste as defined by the jurisdiction at the location of the approved site.

“**Waste Owner**” The Contractor is the Waste Owner after ownership of the waste is passed to the Contractor direct from DND to the Contractor upon Contract Award.

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2.3 Standards, Regulations, and Codes

The following legislative, code and standards shall be in effect for this project.

Environment Act 1994-95, c. 1, s. 1. of the Province of Nova Scotia

Environment Act of the province where the Approved Site is located (to be completed at time of Contract Award) _____

Fishing and Recreational Harbor Act and Regulations

Canadian Environmental Protection Act (CEPA 1999)

Canadian Environmental Assessment Act (CEEA)

Clean-Up Standard for Ocean Disposal of Vessel, Environment Canada, December 2007

Clean-Up Guideline for Ocean Disposal of Vessel, Environment Canada, July 2001

Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their Disposal

Export and Import of Hazardous Waste and Hazardous Recyclable Material

Regulations, CEPA 1999

Transportation Act/Regulations of Dangerous Goods

Canadian Fisheries Act

Nova Scotia Occupational Health and Safety Act and Regulations

Occupational Health and Safety Act and Regulations of the province where the Approved Site is located (to be completed at time of Contract Award) _____

Asbestos Abatement Regulations, 111/98

Labour Standards Code of the province where the Approved Site is located (to be completed at time of Contract Award) _____

TP 127 Ship Electrical Standard

Collision Regulations CSA

Canada Shipping Act

Provincial Government, Workers' Compensation Board

Municipal Statutes and Authorities

Any other Local, Municipal, Provincial and Federal Code, Standard, Regulation, Guideline, By-law or Ordinance having jurisdiction.

Defence Production Act (DPA)

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In case of conflict or discrepancy the more stringent requirements shall apply.

These standards shall be considered an integral part of the specifications and shall be read in conjunction with the drawings and specifications. The Contractor shall be familiar with their contents and requirements as related to the work and materials specified. Additionally, the Contractor shall adhere to any other Federal, Provincial and Local regulations that apply to this work.

3.0 DISPOSAL

3.1 General

The Contractor will assume any expenses in relation to the work described in this specification and will be responsible for any item's cost of cleaning and removing as defined in this specification.

3.2 Salvage / Recycling

All controlled goods, hazardous material, waste, debris and hydrocarbon-based fluid shall be removed from the vessel and disposed of in accordance with provincial and federal regulations. All structural components above the main deck, from the main deck to the keel and all equipment, machinery and other components installed on or contained in the structure shall be cleaned, removed, recycled, reused and / or disposed of in accordance with applicable regulations.

CANADA assumes no responsibility for the quality or quantity of any material to be removed under this project. Any assumptions made regarding the salvage value of any and all materials under this contract are by the Contractor only. All estimates of quality and quantity of salvaged materials are to be made by the Contractor. No consideration for payment will be made to the Contractor as a result of the Contractor receiving less than assumed salvage value of any materials. The Contractor is free to take its own samples of material onboard the vessel during the arranged site visit for the purpose of determining the quality and quantity of waste onboard.

The vessel shall not be sold to a broker and shall be disposed/recycled in accordance with the intent of this specification.

Note: The Contractor should consult with the Provincial Department of Environment and Conservation on whether proposed salvage activities require registration under the Provincial Environmental Assessment Regulations. Should the project require registration and an environmental assessment, the Contractor shall include the appropriate timeline for project release from the Province in the schedule prior to start of the work.

4.0 QUALITY MANAGEMENT REQUIREMENTS

The Contractor must have in place a quality management system consistent with the procedures required for the Quality Management System ISO 9001-2008 – Requirements published by the International Organization for Standardization (ISO) with the exclusion of requirement 7.3 – Design and Development. It is not the intent of this clause to require that the Contractor be registered to the applicable standard; however, the Contractor's quality management system must address each requirement contained in the standard. The Inspection Authority must have the right of access to any area of the Contractor's or Subcontractor's facilities where any part of the Work is being performed. The Inspection Authority must be afforded unrestricted opportunity to evaluate and verify Contractor conformity with Quality System procedures and to validate conformity with contract requirements.

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5.0 OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS

5.1 General

The Contractor shall comply with the Occupational Health and Safety Laws and Regulation in force in the province or provinces in which work will be undertaken. Custody of the vessel direct from CANADA to the Contractor will take place at the time of transfer of Care and Custody of the Ship to the Contractor and from that point on, the Provincial Occupational Health and Safety Laws and Regulations will take precedence over the Canada Labour Code Part II. The Canada Shipping Act requirements still apply to hazardous activities on the Vessel.

A CANADA representative may do periodic checks to see if the work site is in compliance with all health and safety requirements.

5.2 Responsibility

The Contractor shall be responsible for health and safety of persons on each site, of property and for protection of persons and public circulating adjacent to work operations to extent that they may be affected by conduct of the Work.

The Contractor shall enforce compliance by all workers, subcontractors and other persons granted access to each work site with safety requirements of Contract Documents, applicable Federal, Provincial, and local statutes, regulations, and ordinances, and with the site-specific Health and Safety Plan.

5.3 Site Control and Access

The Contractor shall:

- a. Control the work site and entry points to inspection/work areas.
- b. Delineate and isolate inspection/work areas from other areas of site by use of appropriate means.
- c. Post notices and signage at entry points and at other strategic locations identifying entrance onto site to be restricted to authorized persons only.
- d. Approve and grant access to the work site only to workers and authorized persons.
- e. Immediately stop unauthorized persons from circulating in inspection/work areas and remove them from the site.
- f. Provide site safety orientation to all persons before granting access. Advise of site conditions, hazards and mandatory safety rules to be observed on site.
- g. Secure work site at night time to extent required to protect against unauthorized entry. Provide security guard where protection cannot be achieved by other means.
- h. Ensure persons granted access to site wear appropriate personal protective equipment (PPE) suitable to work and site conditions.
- i. Provide such PPE to authorized persons who require access to perform inspections or other approved purposes.

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5.4 Hazard Assessments

The Contractor shall implement and carry out a Health and Safety Hazard Assessment program as part of the work.

The program is to include:

- a. The Contractor shall conduct a site specific Health and Safety Hazard Assessment before commencing the project and during the course of work, identifying risks and hazards resulting from site conditions, weather conditions and work operations.
- b. The Contractor shall perform ongoing assessments addressing new risks and hazards as work progresses.
- c. The Contractor shall conduct hazard assessment when the scope of work has been changed and when potential hazard or weakness in current health and safety practices are identified by an inspector or by an authorized safety representative. Potential hazards must be identified and addressed in the project specific Health and Safety Plan.

5.5 Health and Safety Meetings

The contractor shall provide site safety orientation to all workers and other authorized persons prior to granting them access to the vessel.

Specific occupational health and safety meetings are to be conducted by the Contractor in accordance with the Provincial Occupational Health and Safety requirements.

5.6 Health and Safety Plan

The contractor shall develop a written, site-specific Project Health and Safety Plan (HSP) for the Approved Site or Sites where work is to take place including the DND wharf, based on their site specific Health and Safety Hazard Assessment Program per Paragraph 5.4 above, prior to commencement of work.

The Contractor shall provide key personnel in their management organization to deal with Health and Safety related issues. The names and addresses and a 24/7 telephone number of the responsible team shall be provided to the Crown. The Health and Safety Response Team (HSRT) shall be instructed on how to initiate first action in the case where petroleum or hazardous discharge occurs or in which any other situation, incident or accident should occur. The Contractor shall provide a revised list of names in the event of personnel changes in the HSRT. The Contractor is responsible for the health and safety of all workers, subcontractors and other persons granted access to the work site and shall provide a project specific Health and Safety Plan to the Crown in accordance with the specification. The HSP shall give detailed procedures on all potential project hazards including but not limited to:

- a. Work in Confined and Enclosed Space.
- b. Diving Operations.
- c. Working in close proximity to water.
- d. Scaffolds, Ladders and other aloft working surfaces.
- e. Cutting, welding and heating.
- f. Personnel protective Equipment.
- g. Fall Protection.
- h. Gear and Equipment for rigging and handling material.
- i. Air quality measurement and log keeping.
- j. Escape route from work area and location of First Aid Station.
- k. Lead exposure control plan
- l. PCB exposure control plan.
- m. Mold exposure control plan, and
- n. Mercury and heavy metals exposure control plan.

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The HSP shall contain three (3) parts with following information:

Part 1 - Hazards

List of individual health risks and safety hazards identified by hazard assessment process.

Part 2 - Safety Measures

Engineering controls, personal protective equipment and safe work practices used to mitigate hazards and risks listed in Part 1 of Plan.

Part 3a - Emergency Response

Detail standard operating procedures, evacuation procedures and emergency procedures in the occurrence of an accident, incident or emergency.

- Include response to all hazards listed in Part 1 of Plan.

- Evacuation measures to complement the Facility's existing Emergency Response and

Evacuation Plan should one exist.

- List names and telephone numbers of officials to contact including:

- a. Contractor and all Subcontractors.
- b. Federal and Provincial Departments as stipulated by laws and regulations of authorities having jurisdiction and local emergency resource organizations, as needed based on nature of emergency.
- c. Officials from CANADA as provided.

Part 3b – HSP Site Communications

Procedures used on site to share work related safety issues between workers, subcontractors, and General Contractor.

The Contractor shall prepare the HSP in a three column format, addressing the three parts specified above, as follows:

Column 1	Column 2	Column 3
Part 1	Part 2	Part 3a/3b
Identified Hazard	Control Measures	Emergency Measures & Implemented Communications

The Contractor shall develop the HSP in collaboration with subcontractors. The HSP shall address work activities of all trades.

The Contractor shall revise and update the HSP as required.

The Contractor shall implement and enforce compliance with requirements of the HSP for entire duration of work to completion.

As work progresses, the Contractor shall review and update the HSP to address additional health risks and safety hazards identified by ongoing hazard assessments.

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The Contractor shall post copy of the HSP and all updates at the site.

Note: Submission of the Health and Safety Plan and any subsequent updates to CANADA is for review and information purposes only. CANADA'S receipt and review, including any comments made on the H&S Plan shall not be construed to imply approval in part, or in whole, of the HSP by CANADA, and shall not be interpreted as a warranty of the HSP being complete and accurate, or as a confirmation that all health and safety requirements of the work has been addressed or that the HSP is legislatively compliant. Furthermore, CANADA'S review of the Plan shall not relieve the Contractor of any of his/her legal obligations for Occupational Health and Safety provisions specified as part of the Work and those required by provincial legislation or those which would otherwise be applicable to the site of the work.

5.7 Safety Supervision and Inspections

The contractor shall designate one person to be present at the work site who is responsible for supervising health and safety of the Work. The person is to be certified and competent in Occupational Health and Safety as defined in the Provincial Occupational Health and Safety Act.

The contractor shall assign responsibility, obligation and authority to such designated person to stop work as deemed necessary for reasons of health and safety.

The Contractor shall conduct regularly scheduled informal safety inspections of work site, note deficiencies and remedial action taken in a log book or diary and keep inspection reports at the site.

5.8 Training

The Contractor shall ensure that all workers and other persons granted access to each site are competently trained and knowledgeable on:

- a. Safe use of tools and equipment.
- b. How to wear and use personal protective equipment (PPE).
- c. Safe work practices and procedures to be followed in carrying out work.
- d. Site conditions and minimum safety rules to be observed on site, as given at site orientation sessions.
- e. WHMIS training for the applicable hazardous materials.

5.9 Accident Reporting

The Contractor shall investigate and report the following incidents and accidents:

- a. Those as required by Provincial Occupational Safety and Health Act and Regulations.
- b. Injury requiring medical aid as defined in the Canadian Dictionary of Safety Terms-1987, published by the Canadian Society of Safety Engineers (C.S.S.E) as follows:
 - (1) Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.
 - (2) Property damage in excess of \$5000.00.
 - (3) Those which require notification to Workers Compensation Board or other regulatory agencies as stipulated by applicable law or regulations.

The Contractor shall send written reports to CANADA for all above cases.

5.10 Site Records

The Contractor shall maintain on each site a copy of all health and safety documentation and reports specified to be produced as part of the work and received from authorities having jurisdiction. The Contractor shall upon request, make available to authorized safety representative, for review.

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5.11 Non-compliance

The Contractor shall immediately address and correct health and safety violations and non-compliance issues.

Negligence or failure to follow occupational health and safety provisions specified in the Contract Documents and of those of applicable laws and regulations will result in corrective measures taken by the Crown/ISSC against the General/Prime Contractor.

CAUTION

Paragraphs 5.12 to 5.18 contain additional requirements for hazardous activities that are commonly associated with the Ship Breaking processes and hazards that are already known to exist on the Former HMCS *PRESEVER*, and Former CFAV *QUEST*.

5.12 Hazardous Products

The contractor shall comply with requirements of Workplace Hazardous Materials Information System (WHMIS). The Contractor shall keep MSDS data sheets for all products used at the site.

5.13 Confined Spaces

The Contractor shall:

- a. carry out work in confined spaces in compliance with:
 - (1) Provincial Occupational Safety and Health Regulations;
- b. Conduct hazard assessments and address in Health and Safety Plan before entering confined space.
- c. Provide and maintain equipment and PPE as required for the safety and emergency evacuation of persons entering confined spaces.
- d. Provide training to persons who will be entering and to those persons who will be assisting in the confined space entry process. Training to be specialized instructions beyond (basic confined space entry information) as required to suit type and conditions of confined space.

Any entry into confined spaces onboard the vessel during the contract period shall be conducted in accordance with the Provincial Occupational Safety and Health Regulations and Canada Shipping Act. Where work is done in areas such as bilge, tanks or space with no mechanical ventilation, there shall be a Gas Free Certificate issued by a Marine Chemist or a person who is qualified and certified to operate the testing equipment. The Gas Free Certificate shall be posted at the entrance of the compartment and shall specify, "safe for persons" or "safe for hot work" as appropriate.

5.14 Diving Operations

The Contractor shall conduct all diving work to comply fully with the requirements of the Provincial Diving Regulations and CSA Z275.2-04, "Occupational Safety Code for Diving Operations", CSA Z275.4-02, "Competency Standards for Diving Operations" and CSA Z180.1-00, "Compressed Breathing Air and Systems." The Contractor shall comply with Divisions I and II for Type 2 Dives as defined in Part XVIII of the Canada Labour Code for Diving Operations.

Dive personnel shall meet the minimum competency requirements of the CSA Z275.4-02 and all divers must possess a valid Category 1 Diving Certificate.

Divers shall have a current (less than one year) validated medical examination certificate(s) from a licensed Diving Physician in in Canada (Prov. Equal) who is knowledgeable and competent in diving and hyperbolic medicine, for all dives.

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5.15 Hotwork

The Contractor shall provide fire extinguishers (any other related equipment) and fire watches during any hot work and for a minimum of 30 minutes after work has stopped. Any hot work carried out onboard the vessel during the contract shall be conducted in accordance with The Canada Shipping Act, and applicable Provincial Acts and Regulations. Both the front (welder side) and back side of a deck or a bulkhead being cut or welded must be visually monitored continuously by the fire watches. All combustible materials must be removed from the area where the burning and welding is taking place.

5.16 Inorganic Lead Exposure Control Plan

The Contractor shall:

- a. conduct a risk assessment of the worksite and activities. The assessment shall be conducted by a person qualified in inorganic lead removal activities,
- b. implement a lead exposure control plan in accordance with Provincial Occupational Safety and Health Regulations for workers that are exposed to lead;

5.17 PCB Exposure Control Plan

The Contractor shall:

- a. conduct a risk assessment of the worksite and activities. The assessment shall be conducted by a person qualified in PCB removal activities,
- b. implement a PCB exposure control plan in accordance with Provincial Occupational Safety and Health Regulations for workers that are exposed to PCBs;

5.18 Indoor air quality and Mold Exposure Control Plan

The Contractor shall:

- a. conduct a risk assessment of the worksite and activities. The assessment shall be conducted by a person qualified in indoor air quality and mold removal activities,
- b. implement an indoor air quality and a mold exposure control plan in accordance with Provincial Occupational Safety and Health Regulations for workers that are exposed to poor air quality and/or mold;

6.0 DETAILED WORK PLAN

Work must commence and be completed as follows for the former HMCS PRESERVER:

Commence: at contract award date.
Complete: 18 MONTHS from date of contract award.

The Contractor must remove the former HMCS PRESERVER from the HALIFAX DOCKYARD Jetty no more than 45 calendar days after Contract award.

Work must commence and be completed as follows for the former CFAV QUEST:

Commence: Former CFAV QUEST will be made available to the Contractor on: SEPTEMBER 1, 2017.
Complete: 18 months from date the former CFAV QUEST is made available to the Contractor.

The Contractor must remove the vessel from the CFB HALIFAX DOCKYARD Jetty no later than 45 calendar days after the former CFAV QUEST has been made available to the Contractor.

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6.2 Detailed Work Plan

A Detailed Work Plan shall be submitted for review to CANADA fourteen (14) days prior to commencement of the work. The plan shall include:

6.2.1 Environmental Protection Plan:

The Contractor must have in place an environmental management system consistent with the procedures required for the Environmental Management System ISO 14001-2004 – Requirements published by the International Organization for Standardization (ISO). It is not the intent of this clause to require that the Contractor be registered to the applicable standard; however, the Contractor's environmental management system must address each requirement contained in the standard.

The Contractor shall develop and submit an Environmental Protection Plan (EPP) that demonstrates the Contractor's commitment to avoidance of adverse environmental impacts through implementation of best practices rooted in pollution prevention and the promotion of sound environmental practices for the project to be undertaken. This plan shall include identification and description of the Approved Site or sites where the work will be completed and must address all of the following for each site, at minimum:

- a. Indicate the method of vessel cleaning, transportation from the work site to the disposal site, and the method of packaging and bundling.
- b. Environmental Contingency Plan – this plan shall indicate the process of how contaminants are to be contained and how to deal with situations involving petroleum product leaks in water or on the ground, ozone depleting substance leaks, or fire on the vessel or explosion. Tools and materials to be used and available on board or on the site of work for the duration of the contract shall be identified.
- c. Provide details on the process for cleaning, removal, and disposal of hazardous materials, hydrocarbon impacted areas and miscellaneous items including, but not limited to; tanks, piping, boilers, engines, shafting, gearing, stern tubes, steering gear, hydraulics, bilge, sonar, areas, black and grey water, hazardous materials, asbestos, polychlorinated biphenyls (PCBs), paint, and other hazardous materials. Also briefly include the engineering controls and personal protective equipment to be used to minimize worker exposure to hazardous materials.

6.2.2 Management Plan

This plan shall describe the Contractor's approach and methodology with respect to the proposed work. This plan shall:

- a. Indicate the process to move the vessel from the present location to the Approved site. (i.e. Vessel survey for towing or lift ship/towed floating dock operation, stability considerations, towing arrangement, towing limitations, contingency plan in case of breakage of the towline, co-ordination with regulatory agencies and spill emergency response.)
- b. Details of air quality monitoring and describe the administrative controls to be used in support of the data collected. The contractor shall provide a written procedure identifying how adequate air quality will be provided onboard the vessel and how the records will be maintained.
- c. Outline step-by-step proposed methodology for disposing of the vessel, including specific equipment needed. The description shall detail how the vessel structure will be dismantled. The description shall also reference how vessel stability will be maintained and monitored during cleaning and disposal activities.
- d. Provide details on the process for the removal and destruction of controlled goods on board the ship as listed in Appendices 1 and 2. Details of methods of destruction of the controlled goods as well production of destruction certificates are to be included.

6.2.3. Work Schedule

The project shall have a Master Work schedule which is the schedule for the entire project. The Master Work schedule will include all tasks required for each ship disposal including; schedule milestones, deliverables, all subcontract work and activities, preparation for transporting the vessel, transporting the vessel, initial surveys,

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inspections, identification and safe removal and disposal of hazardous materials, dismantling and salvage. The schedule shall be in tabular format with a Gantt chart and shall include:

- a. Original duration in calendar days. (baseline)
- b. Remaining duration.
- c. Percentage completed.
- d. Original and revised start and finish date for each task in relation to all work identified under this specification.

The schedule shall be updated to reflect the work progression every month until the completion of all tasks.

6.2.4 Tow Plan

The Contractor must submit to the Crown for review a comprehensive Tow Plan for each ship that details the process to move the vessel from the present location to the Contractor's Approved Site. If there are more than (1) leg in the tow process, and the ship is docked or anchored anywhere in the journey, each leg is a separate line item, which must be approved by CANADA. If different tugs are used in the tow process, CANADA must approve the new tug. A comprehensive leg by leg and safe haven report must accompany the tow plan. CANADA will conduct a final tow risk analysis with all the pre- tow data, no later than 7 days prior to the tow. CANADA will have the final say on the go-no go- tow certification. At a minimum the Tow Plan must address no later than 14days prior to the tow items "**a**" through "**k**" below . These items below included in the tow plan will include a risk analysis by CANADA. At 24 hours prior to the tow all final certification must be submitted to CANADA. This includes insurance, underwriter certification, Transport Canada certification, London Off- Shore certification, final TUG certification:

The comprehensive tow plan must include:

- a) Schedule and route including safe harbour;
- b) Surveys required for safe-to-tow certification/Vessel survey for towing;
- c) Ship condition report;
- d) Towing arrangement;
- e) Towing limitations;
- f) Stability considerations;
- g) Emergency Preparedness Response;
- h) Oil Pollution Response Plan/Spill Emergency Response Plan;
- i) Contingency plan in case of breakage of the towline;
- j) Flood monitoring for vessel when undertow and response plan; and
- k) Co-ordination with regulatory agencies.

7.0 OFFICE ACCOMMODATION AND FACILITIES

The contractor shall provide office accommodation and facilities for the Crown and Crown representatives as follows:

- a. The office shall be private, fully enclosed and lockable with:
 - Two executive desks and suitable chairs
 - One lockable filing cabinet
 - A minimum of 150 sq. ft.
 - Relative humidity to be maintained between 20% and 50%
 - Minimum temperature 20C
 - Maximum temperature 28°C, with at least a 5°C, differential with outside ambient temperature when outside ambient temperature exceeds 30°C.
 - Telephone services shall be supplied and maintained at each desk
- b. Washroom facilities shall be within a reasonable distance of the office space
- c. Two parking spaces shall be provided

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8.0 SPECIFICATION OF WORK

8.1 General Requirements

Approved Site(s)

The Contractor shall identify the location where the cleaning, salvaging /recycling work and hazardous waste disposal will be done. This location(s) will be defined as the Approved Site(s) and shall meet the following requirement(s):

Personnel

The Contractor shall provide all personnel, insurance, equipment, tools, vehicles, materials, facilities, supervision and any other items and services necessary to clean, dismantle, recycle, and dispose of the vessel and any and all hazardous wastes.

Towing

The Contractor will be required to transport the vessel to the Contractor's site of work. The Contractor shall obtain and pay all fees for certificates, surveyors, and pilotage authorities, deemed necessary by the applicable regulations and any insurance for any required towing operation. The Contractor shall provide Canada, prior to moving the vessel, a voyage certificate for the intended destination from an approved surveyor stating that the vessel is safe to transport in accordance with the chosen method of transport.

Trim and Stability

The Contractor will be solely responsible to ensure the stability of the vessel at all times during the work. The Contractor shall have on staff or subcontract the service of a Naval Architect; registered to practice, as a Professional Engineer, to verify and confirm the vessel stability during the dismantling operation should this work be done while the vessel is afloat. The Naval Architect shall approve significant changes to the Management Plan, such as an unscheduled movement or removal of weights from the vessel.

Hazardous Wastes

The Contractor shall provide all WHMIS MSDS sheets for any material furnished by the Contractor during the course of the work of the contract.

The Contractor shall submit to Canada within 5 days after issuance, all copies of manifests and Transportation of Dangerous Goods sheets, showing the type/description of materials removed from the vessel for disposal. The certificate shall indicate the quantity removed, any testing conducted, and the location of disposal. All waste shall be accounted for in a database by the Contractor until the vessel has been properly disposed in accordance with the Statement of Work.

Ownership

Any equipment removed from the vessel shall become the property of the Contractor except as specifically identified in prior to contract award.

The Contractor shall pay for all Federal, Provincial and Municipal Taxes and dumping fees (tipping fees) at the Municipal Landfill, PCB disposal facility, and controlled waste handling and disposal facilities during the course of this project.

Regulatory

In addition to various provincial and federal regulations regarding hazardous materials, the Contractor shall comply with all directives and requirements issued by the Provincial Departments regarding the removal, transport, placement and disposal of hazardous materials for various locations, including:

- a. The disposal of hazardous materials in appropriate waste containers.
- b. The transport of hazardous materials to an approved site.
- c. Any and all requirements, which may exist regarding notifications of the presence of hazardous materials.
- d. The asbestos work shall be done by a registered asbestos abatement contractor.
- e. Disposal of PCBs shall be via incineration conducted by a registered PCB disposal contractor.

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- f. The requirements for training of Contractor's Personnel conducting the hazardous materials abatement work.

8.2 Salvage/Recycle

8.2.1 General

The Contractor shall remove all liquid from bilges, tanks and receivers and dispose of this material according to all appropriate regulations for the jurisdiction under which the Contractor operates. Hazardous materials identified in the specification shall be removed and disposed of this material according to all appropriate regulations for the jurisdiction under which the Contractor operates. The remaining asset shall be cleaned and dismantled, recycled or disposed of in accordance with the requirements of the Statement of Work. The disposition of the ballast in the tanks will be provided to the Contractor at the time of the site visit. It is the responsibility of the Contractor to dispose of all liquid waste removed from the vessel.

It is the Contractor's sole responsibility for determining the value of all salvageable portions of the vessel, including but not limited to: steel, main engine, generator, pumps, valves, pipes, hatches, portholes, furniture, winches, ropes, chains, anchors, cable wiring, etc.

8.2.2 Technical

The Contractor shall include in the scope of work, all considerations for the impact on the overall vessel stability due to the removal of engines, equipment or structural steel sections from the vessel. Therefore, and because of the nature of this work, the Contractor shall identify in the Management Plan in Section 6, the sequence in which the dismantling work will occur. The Contractor shall indicate in the Master Work Schedule the Dismantling Timeline of the vessel structure to indicate the sequence in which major vessel structure and equipment are being removed until completion of this item.

8.3 Preparation for Transportation

The vessel shall be removed from the DND jetty, HALIFAX DOCK YARD within 45 days, as stated in the Contract. Any mandatory preparation work required to permit safe travel while the vessels are being transported will be permitted at the DND wharf at the Contractor's expense. All other work as specified shall be completed at the Contractor's Approved site of work. The Contractor is responsible for the provision for all resources and services required to complete the mandatory preparation work.

All pre-tow certifications, including providing the Crown the complete tow plan, tow risk assessment, Hull surveyor report, Insurance (for ships) and third party liability, tow company and tug particulars shall be provided to Canada before Care and Custody of a ship is transferred to the Contractor. On receipt of all pre-tow certifications, Canada will transfer Care and Custody of the ships to the contractor for the tow, but shall retain ownership of the ships through the final dismantling in the shipyard.

8.4 Berthing, Mooring, and Docking

8.4.1 General

The Contractor shall be responsible for all material and labour required for handling, berthing, mooring and dry-docking (if applicable) for the vessel(s).

8.4.2 References

201-H02-4200, Docking Plan (3 shts)
AVOR-MTS-01, Quest Stability Data/Drawing
9659165, General Arrangement

509-H-02-51430-01, PTR Class Docking Plan
HMCS PRESERVER STABILITY DATA/DRAWING
509-H-27-41297-01, Mooring and Towing Arrangement
9251641, General Arrangement
9665018, PTR Class Incident Board

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8.4.3 Berthing and Mooring

The Contractor shall berth and moor the vessel for the duration of the contract period. Canada and the Inspection Authority shall have unrestricted access to the vessel at all times under the supervision of the Contractor for Health and Safety reasons.

The location of the vessel for the duration of the contract shall be at an authorized site for the type of work intended and shall be in accordance with Federal, Provincial and/or Municipal requirements.

The Contractor shall supply all mooring lines and labour required in berthing, mooring, and casting off for the vessel.

8.4.4 Services

The Contractor shall supply and erect two gangways complete with safety nets for each vessel in compliance with the Canada Labour Code while the vessel is on the blocks or alongside the Contractor's place of work. There shall be two separate and independent means of accessing the vessel at all times. The gangways shall be lighted during the work period after daylight. The Contractor shall be responsible for the safety of the gangways.

The Contractor shall provide fire protection in accordance with applicable Acts and Regulations for the duration of the contract while workers are on board the vessel.

8.5 BILGE AND COMPARTMENT CLEANING

8.5.1 General

The bilge area is defined as the interior skin in all compartments under the deck plate, which may have been subject to contact with hydrocarbon based fluid. The Contractor shall remove all bilge oily wastewater from the vessel and dispose of it in accordance with the applicable laws and regulations.

8.5.2 References

There are no specific drawings of these spaces other than a General Arrangement Drawing (provided for each ship). The Contractor shall trace out the system to perform the requirements of this item.

8.5.3 Technical

The Contractor shall be responsible for the removal and disposal of oily water from bilge area within the vessel.

8.6 Ballast tanks and void Spaces

8.6.1 General

Ballast tanks, void spaces and pipe tunnels were not designed to carry or contain any hydrocarbon based fluid but these spaces are required to be emptied of their contents.

The tanks may contain liquid, therefore the Contractor shall follow all confined space safety requirements and exercise caution while emptying the remaining liquid ashore and assure that it meets applicable disposal regulations.

8.6.2 References

There are no specific drawings of these spaces other than a General Arrangement Drawing (provided for each ship). The Contractor shall trace out the system to perform the requirements of this item.

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8.6.3 Technical

If any of the tanks are found to contain hydrocarbon based fluid then these tanks shall be dealt with in accordance with applicable disposal regulations.

8.7 Diesel Oil Tanks and JP5 Tanks

8.7.1 General

Each vessel is fitted with diesel oil and JP5 tanks. Fluid remaining in all tanks shall be removed ashore and disposed of in accordance with applicable disposal regulations.

8.7.2 References

There are no specific drawings of these spaces other than a General Arrangement Drawing (provided for each ship). The Contractor shall trace out the system to perform the requirements of this item

8.7.3 Technical

The Contractor shall open all the tanks and remove the remaining diesel oil, oil or wastewater. Different fluid types shall not be mixed to reduce disposal cost.

The remaining of the work for this section shall be done as per the specification

8.8 Black and Grey water Systems

8.8.1 General

The Contractor shall pump out the black and grey water systems and dispose of the fluid ashore in accordance with applicable disposal regulations.

8.8.2 References

There are no specific drawings of these spaces other than a General Arrangement Drawing (provided for each ship). The Contractor shall trace out the system to perform the requirements of this item

8.8.3 Technical

The Contractor shall open all the tanks and remove the remaining black and grey water from the vessel black and grey water system and associated tanks.

The remaining work for this section shall be done as per the specification.

8.9 Hazardous Materials and Miscellaneous Items

8.9.1 General

Under this item, hazardous material means all materials as identified in the Environmental Assessment (EnvA) reports provided with the SOW, materials identified by subsequent sampling reports completed by the Contractor, all controlled waste and/or otherwise regulated material or substances for which exposure will, or may, result in a health hazard,. The EA and any available reports are included in the Appendices of this specification.

All hazardous materials shall be removed from the vessel by the Contractor in accordance with applicable regulations. The hazardous materials must be containerized and transported to a facility certified by the authority having jurisdiction to dispose of these materials.

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The EA and subsequent sampling reports show the location of these products on board the vessel. Quantities and volumes of hazardous materials contained in consultant sampling reports and referenced in this document are approximate only.

The EA is the best information available to Canada (AT TIME OF SAMPLING) on the hazardous materials within the vessel. The environmental information is not final, and is only meant to aid contractors in the bid process. The Contractor shall survey the vessel to identify actual quantities of hazardous materials any other hazardous material present on the vessel and shall dispose of this material in accordance with federal and provincial regulations.

8.9.2 Paint

Paint on board may contain contaminants such as lead, mercury, arsenic, pcbs, and cadmium. All loose and flaky paint shall be scraped off, vacuumed and disposed in accordance with applicable regulations. Paints exceeding Provincial leachate criteria must be handled as a hazardous material and in accordance with all regulations.

Painted surfaces containing concentrations of PCBs >50 mg/kg must be removed and handled and disposed as a hazardous waste containing PCBs in accordance with Federal and Provincial regulations.

PCBs (greater than 0.05 mg/kg) contained in paint on metals for recycling at a foundry must be removed and handled accordingly. Lead (leachability greater than 5.0 mg/L) contained in paints on materials that will be disposed of at a landfill shall be removed and disposed of in accordance with Provincial requirements. All hazardous materials must be handled, packaged and disposed of in accordance with applicable Provincial/Federal regulations.

8.9.3 Asbestos Containing Material (ACM):

The EnvA report indicates that asbestos may be present throughout the ships. The EnvA report as well as subsequent sampling information is provided in Appendix. The Contractor shall remove and dispose of all asbestos in accordance with applicable Provincial/Federal regulations. As asbestos may be present on the vessels, it is the Contractor's responsibility to determine the quantity and type of asbestos containing material onboard and dispose of this material in accordance with all applicable regulations.

8.9.4 Liquid or Semi Solid Waste

Liquid or semi solid waste such as paste and grease containers are found at numerous locations on the vessels as per the EA report included as an Appendix to this Statement of Work. The Contractor shall dispose of all liquid or semi solid waste containers found in the vessel in accordance with the applicable regulations.

8.9.5 Miscellaneous Items

The vessel contains numerous miscellaneous items of all types that were identified under the EA report. The Contractor shall remove and dispose of these items in accordance with the applicable regulations.

The Contractor shall make reference to the EA report for the identification and location of noted debris. The EA reports are only presented as reference and it is the bidder's responsibility to determine the quantity and types of material left on board and to dispose of these items in accordance with all applicable regulations.

8.9.6 Tracking of Hazardous and other Waste

The Contractor shall maintain a database that tracks all Hazardous and other Waste from the point of transfer to Contractor Care and Custody to final disposal. In the database, for each item identified in the EA (or subsequently identified), the Contractor shall:

- 1) Identify the type of waste;
- 2) Identify the removal process;
- 3) Identify the weight of waste removed from the ship;
- 4) Identify the secure process for transporting the waste from the ship to the next location;
- 5) Identify the location where the waste is to be stored awaiting final disposal;

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- 6) Identify the method of secure transport used to transport the waste to a facility certified to dispose of the waste;
- 7) Provide shipping manifest, bill of lading or tracking number for transport of waste to the certified facility;
- 8) Identify the facility disposing of the waste and provide their certification number to dispose of the waste identified;
- 9) Provide shipping manifest, bill of lading or tracking number confirming delivery and acceptance of the waste by the certified disposal facility;
- 10) Track the delta of waste removed from the ship with waste accepted at certified disposal facility. The contractor must ensure that all waste by weight removed from the ship matches the waste by weight accepted at appropriate certified disposal facility at the completion of the Work.

The Contractor shall submit to the Crown within 5 days after issuance, all copies of manifests and Transportation of Dangerous Goods sheets, showing the type/description of materials removed from the vessel for disposal. The certificate shall indicate the quantity removed, any testing conducted, and the location of disposal. All waste shall be accounted for in a database by the Contractor until the vessel has been properly disposed in accordance with the Statement of Work.

8.10 Controlled Goods

Canada has developed a Master Equipment List (MEL) for both ships that itemizes all equipment and stores left onboard. The MEL details equipment by showing pictures, equipment location, description and demilitarization instructions for both controlled and non-controlled items. The database shall be made available at the shipyard, and shall be controlled by the Inspection Authority.

The Contractor is required to demilitarize the controlled goods (mutilate and destroy), in the most efficient and safe manner, either in situ while dismantling the sections of the ship, or by removing off the ship first and then destroying at the jetty, pier, dry-dock or alongside facility. The Contractor shall destroy/ demilitarize (in accordance with the instructions below) all equipment and stores throughout each compartment and storerooms. NDQAR shall witness the destruction of all 379 compartments on EX Algonquin, and 427 compartments (including tanks) on EX Protecteur. Once items are demilitarized and cut up, as witnessed by the Inspection Authority. The material is considered waste and becomes the property of the contractor as weight. All equipment identified as controlled goods in the Appendices to the SOW, on both ships, are to be totally mutilated and will NOT be returned to Canada. If the Contractor encounters equipment not listed in the MEL, the Inspection Authority shall be notified immediately for demilitarization instructions.

Destruction/Mutilation of equipment or stores left in storerooms shall be witnessed by Canada representative. All remaining stores left, either on shelves or in tri-walls shall be taken out and destroyed in the same manner. All controlled goods shall be demilitarized with an Inspection Authority in attendance in accordance with the instructions provided in Appendix 5.

A Crown representative shall be on site during normal working hours to witness the demilitarizing of the controlled goods that were stockpiled in a secure location, or destroyed / demilitarized onboard. Complete demilitarization instructions for each piece of equipment shall be available on site through Inspection Authority. Once equipment is mutilated and demilitarized, in accordance with the CTAT Manual instructions provide within the Excerpt below, the pieces are considered waste and become the property of the contractor.

For Former HMCS *PRESERVER*: the entire ship, once mutilated compartment by compartment, becomes the property of the contractor as waste. With the exception of the anchor, no equipment shall be retained by Canada.

THE HULL OF EITHER FORMER HMCS *PRESERVER* OR Former CFAV *QUEST IS CONSIDERED DEMILITARIZED ONCE THE HULL IS CUT UP INTO 15 METRE SQUARE SECTIONS AS WITNESSED BY the Inspection Authority*. Contractor's Master Work Schedule must indicate the methods and equipment to be used to remove and demilitarize the Controlled goods.

Some materials listed in the appendices may be removed by Canada prior to contract award. The Contractor can confirm which materials remain onboard through the MEL.

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The contractor shall complete certificates of destruction for all materials listed in Appendices 1 and 2 and provide them to Canada. The total quantities destroyed shall to be shown including the serial number(s). The format for the certificate of destruction is at Appendix 5. All known serial numbers are verified in the MEL database, and shall be cross referenced upon removal.

The Contractor shall provide to Canada photographs of the controlled goods on the vessel, in storage and after the disposal instructions have been carried out. The contractor must provide sufficient photographs to show proof that the materials have been destroyed in accordance with the instructions, and witnessed by the Inspection Authority.

A witness provided by Canada must sign the “Certificate of Demilitarization” for all items. The witness shall attest that the item was demilitarized before signing the certificate. The Contractor shall inform Canada 48 hours in advance of any destruction to allow time to co-ordinate witness attendance.

Demilitarization Requirement	Type of Demilitarization Instructions Required	Comments
<p>Total destruction or mutilation of the item to preclude its restoration to a usable state as per informal/generic demilitarization instructions provided by the item’s TA or authorized person named by the CTAT Office.</p> <p>DMC of D (Cdn and Foreign origin items)</p>	<p>(1) INFORMAL: Provide demilitarization criteria (i.e. cut item in four pieces not longer than 6 inches each), to meet demilitarization requirements. Demilitarization certificate (DND form 2586) Part 1A can be used to provide informal demilitarization instructions.</p>	<p>(1) Ensure the item cannot be restored or repaired to a usable condition. Ensure information on the characteristics, performance or manufacturing method of the item cannot be extracted when required. The minimum criteria of the demilitarization shall be indicated.</p> <p>Note 1: Possible methods of demilitarization are breaking, cutting, crushing, neutralizing, perforating, pulverizing, punching, shattering, shredding, slashing, smashing, or smelting. The personnel performing the demilitarization should determine the method (not the criteria) of demilitarization, usually based on the condition of the item.</p> <p>Note 2: The demilitarization requirement cannot be used as demilitarization instructions. Demilitarization instructions must refer to demilitarization criteria (end result) required to meet the demilitarization requirement.</p> <p>(2) As per demilitarization instructions.</p>

Excerpt from CTAT Manual, C-02-007-000/AG-001, Page 2G-2

8.10.1 Tracking of Controlled Goods

The Contractor shall maintain a database that tracks all controlled goods from the point of transfer to Contractor Care and Custody to demilitarization and final disposal. In the database, for each item identified in the MEL (or subsequently identified) as a controlled good, the Contractor shall:

- 11) itemize the controlled good by serial number;
- 12) identify the location of the controlled good on the ship;
- 13) describe the removal process of the controlled good;
- 14) identify the secure process for transport to a location other than the ship;
- 15) identify the location where the item is stored while awaiting demilitarization;
- 16) detail the process for demilitarization of the controlled good;
- 17) identify the witness to demilitarization; and
- 18) identify the certificate of destruction number for reference.

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9.0 Project Completion

The work will be considered complete when the following has occurred:

- a. Vessels transported to Contractor facility.
- b. All controlled good have been either witnessed mutilated, destroyed in accordance with the CTAT instructions, or removed and mutilated in safe location, in accordance with the instructions at Appendices 1 and 2.
- c. All specified retention equipment including museum items have been returned to Canada.
- d. All hazardous and/or controlled material is removed and has arrived at an approved hazardous waste disposal facility for final disposal. Shipping certification and receipt of arrival must be accounted for. Final individual weights for all hazardous materials shall be itemized.
- e. The vessel hull and structure has been broken up into sections no larger than 15m square sections with all internal equipment witnessed, including all onboard stores, as witnessed by NDQAR or representative of Canada.
- f. Completion of the Ship Disposal Certificate.