



**RETURN BIDS TO:  
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des  
soumissions - TPSGC**

**11 Laurier St. / 11, rue Laurier**

**Place du Portage , Phase III**

**Core 0B2 / Noyau 0B2**

**Gatineau**

**Québec**

**K1A 0S5**

**Bid Fax: (819) 997-9776**

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government  
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services  
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

**Comments - Commentaires**

**Vendor/Firm Name and Address**

**Raison sociale et adresse du**

**fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**

Ship Construction, Refit and Related Services/Construction navale, Radoubs et services connexes

11 Laurier St. / 11, rue Laurier

6C2, Place du Portage

Gatineau

Québec

K1A 0S5

<b>Title - Sujet</b> Halifax Class Marine Cranes		
<b>Solicitation No. - N° de l'invitation</b> W8482-156383/B		<b>Date</b> 2018-07-18
<b>Client Reference No. - N° de référence du client</b> W8482-156383		
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$MC-033-26914		
<b>File No. - N° de dossier</b> 033mc.W8482-156383	<b>CCC No./N° CCC - FMS No./N° VME</b>	
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2018-08-28</b>		<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>		
<b>Address Enquiries to: - Adresser toutes questions à:</b> Davies, Neil		<b>Buyer Id - Id de l'acheteur</b> 033mc
<b>Telephone No. - N° de téléphone</b> (819) 420-0865 ( )		<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>  Specified Herein Précisé dans les présentes		

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b> See Herein	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

**This bid solicitation cancels and supercedes previous solicitation number W8482-156383/A dated June 13, 2017 with a closing date of August 25, 2017 at 2:00PM EST.**

## **Request for Proposal (RFP)**

**For the procurement of Electro Hydraulic Marine Cranes with Associated Detailed Engineering Design Data and Technical Data Package for the Royal Canadian Navy (RCN) Halifax Class Ships**

### **TABLE OF CONTENTS**

#### **PART 1 - GENERAL INFORMATION**

- 1.1 INTRODUCTION
- 1.2 SUMMARY
- 1.3 DELIVERY SCHEDULE
- 1.4 PHASED BID COMPLIANCE PROCESS
- 1.5 DEBRIEFINGS

#### **PART 2 - BIDDER INSTRUCTIONS**

- 2.1 STANDARD INSTRUCTIONS, CLAUSES AND CONDITIONS
- 2.2 SUBMISSION OF BIDS
- 2.3 ENQUIRIES - BID SOLICITATION
- 2.4 APPLICABLE LAWS

#### **PART 3 - BID PREPARATION INSTRUCTIONS**

- 3.1 BID PREPARATION INSTRUCTIONS
- 3.2 CANADA REQUESTS THAT BIDDERS PROVIDE THEIR BID IN SEPARATELY BOUND VOLUMES
- 3.3 EXCHANGE RATE FLUCTUATION

#### **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

- 4.1 EVALUATION PROCEDURES
- 4.2 BASIS OF SELECTION

#### **PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION**

- 5.1 CERTIFICATIONS REQUIRED WITH THE BID
- 5.2 CERTIFICATIONS PRECEDENT TO CONTRACT AWARD AND ADDITIONAL INFORMATION

#### **PART 6 – SECURITY, FINANCIAL AND OTHER REQUIREMENTS**

- 6.1 SECURITY REQUIREMENTS
- 6.2 INSURANCE REQUIREMENTS
- 6.3 FINANCIAL CAPABILITY

#### **PART 7 - RESULTING CONTRACT CLAUSES**

- 1 REQUIREMENT**
  - 1.1 OPTIONS FOR ADDITIONAL CRANES, SPARE PARTS AND SPECIAL PURPOSE TOOLS
  - 1.2 DESIGN DOCUMENTS
  - 1.3 PRODUCTION SCHEDULE
  - 1.4 DRAWINGS DURING DESIGN, MANUFACTURING PHASE
  - 1.5 ADDITIONAL / UNSCHEDULED WORK INCLUDING DESIGN CHANGE
  - 1.6 INSPECTION AND ACCEPTANCE OF THE WORK
  - 1.7 TESTS AND DEMONSTRATIONS ACCEPTANCE

## **2 STANDARD CLAUSES AND CONDITIONS**

- 2.1 GENERAL CONDITIONS
- 2.2 SUPPLEMENTAL GENERAL CONDITIONS
- 2.3 SECURITY REQUIREMENT

## **3 TERM OF CONTRACT**

- 3.1 DELIVERY DATE
- 3.2 SHIPPING INSTRUCTIONS, DELIVERED DUTY PAID

## **4 AUTHORITIES**

- 4.1 CONTRACTING AUTHORITY
- 4.2 TECHNICAL AUTHORITY
- 4.3 CONTRACTOR'S REPRESENTATIVE

## **5 PAYMENT**

- 5.1 BASIS OF PAYMENT – FIRM PRICES
- 5.2 BASIS OF PAYMENT – ADDITIONAL / UNSCHEDULED WORK
- 5.3 MILESTONE PAYMENTS
- 5.4 DISCRETIONARY AUDIT FOR UNSCHEDULED WORK ONLY
- 5.5 TIME VERIFICATION FOR UNSCHEDULED WORK ONLY
- 5.6 LIMITATION OF PRICE

## **6 INVOICING INSTRUCTIONS – MILESTONE PAYMENT CLAIM**

## **7 CERTIFICATIONS AND ADDITIONAL INFORMATION**

- 7.1 COMPLIANCE
- 7.2 FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - DEFAULT BY THE CONTRACTOR

## **8 APPLICABLE LAWS**

## **9 PRIORITY OF DOCUMENTS**

## **10 FOREIGN NATIONALS (CANADIAN CONTRACTOR OR FOREIGN CONTRACTOR)**

## **11 DEFENCE CONTRACT**

## **12 QUALITY PLAN**

## **13 INSURANCE REQUIREMENTS**

## **14 LIMITATION OF CONTRACTOR'S LIABILITY FOR DAMAGES TO CANADA**

## **15 DISPUTE RESOLUTION**

## **16 FAILURE TO DELIVER**

## **17 SACC MANUAL CLAUSES**

Solicitation No. - N° de l'invitation  
W8482-156383/B  
Client Ref. No. - N° de réf. du client  
W8482-156383

Amd. No. - N° de la modif.  
File No. - N° du dossier  
033mc.W8482-156383

Buyer ID - Id de l'acheteur  
033mc  
CCC No./N° CCC - FMS No./N° VME

---

ANNEX "A" STATEMENT OF WORK

ANNEX "B" MILESTONE PAYMENT SCHEDULE

ANNEX "C" DELIVERY SCHEDULE

ANNEX "D" BASIS OF PAYMENT

ANNEX "E" PROCEDURE FOR PROCESSING ADDITIONAL / UNSCHEDULED WORK

ANNEX "F" INSURANCE REQUIREMENTS

ANNEX "G" FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY – CERTIFICATION

ANNEX "H" DETAILED PRICE BREAKDOWN

ANNEX "I" SECURITY REQUIREMENT CHECK LIST

ANNEX "J" QUESTIONS AND RESPONSES – SOLICITATION B

ANNEX "K" MANDATORY TECHNICAL CRITERIA

ANNEX "L" POINT RATED TECHNICAL CRITERIA

## **PART 1 - GENERAL INFORMATION**

### **1.1 Introduction**

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications and Additional Information: includes the certifications and additional information to be provided;
- Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by Bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Milestone Payment Schedule, the Delivery Schedule, Basis of Payment, the Procedure for Processing Additional/Unscheduled Work, the Insurance Requirements, the Federal Contractors Program for Employment Equity - Certification, Detailed Price Breakdown, Security Requirement Checklist, Questions and Responses Solicitation B, the Mandatory Technical Criteria and Rated Technical Criteria.

By signing the cover page and submitting a bid the Bidder certifies that it has read, understands and will fully comply with Annex A Statement of Work.

### **1.2 Summary**

The Royal Canadian Navy (RCN) has a requirement to procure eighteen (18) new Class approved Electro Hydraulic Knuckle Boom Marine Cranes (Cranes), to replace the existing Davit and Torpedo Handling/Rescue cranes installed on the starboard side of the Halifax Class Ships and to procure the required engineering design data and Technical Data Package (TDP) to produce the required Engineering Change (EC). This requirement also includes the option to procure fourteen (14) additional Cranes to replace the existing Torpedo Handling/Rescue cranes installed on the port side of the ships.

The Federal Contractors Program (FCP) for employment equity applies to this procurement; see Part 5 – Certifications and Additional Information, Part 7 - Resulting Contract Clauses and the annex titled Federal Contractors Program for Employment Equity - Certification.

There are security requirements associated with this requirement. For additional information, consult Part 6 - Security, Financial and Other Requirements, and Part 7 - Resulting Contract Clauses. For more information on personnel and organization security screening or security clauses, Bidders should refer to the [Contract Security Program](http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html) of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and the Canadian Free Trade Agreement.

### 1.3 Delivery Schedule

Canada requires that the following deliverables be ready for acceptance, that is, complete in all respects and with all testing successfully completed, when applicable, this in accordance with the contract, no later than:

Item #	Description	Days after Contract Award (CA)
1	Delivery of Project Management Plan	CA + 20 working days
2	Project Kick Off Meeting	CA + 20 working days
3	Delivery of Initial Design Documents	CA + 30 working days
4	Delivery of Maintenance Concept	CA + 40 working days
5	Delivery of Preliminary Design Documents	CA + 60 working days
6	Delivery of Critical Design Documents	CA + 90 working days
7	Delivery of Technical Data Package	CA + 120 working days
8	Delivery of the FAT Plans and Procedures	CA + 120 working days with TDP
9	Delivery of the STW Plans and Procedures	CA + 120 working days with TDP
10	Delivery of the SAT Plans and Procedures	CA + 120 working days with TDP
11	Delivery of the KB Crane Cadre Training Package	CA + 180 working days
12	Delivery of the 1 <sup>st</sup> Crane with Spare Parts and Special Purpose Tools	CA + 365 Days
13	Delivery of all eighteen (18) Cranes including Spare Parts and Special Purpose Tools.	Within a two (2) year period commencing with the delivery of the first Crane
14	Delivery of all fourteen (14) option Cranes, if exercised, including Spare Parts and Special Purposes Tools	Within a two (2) year period commencing with the exercising of the Option Cranes

#### **1.4 Phased Bid Compliance Process**

The Phased Bid Compliance Process (PBCP) applies to this requirement.

#### **1.5 Debriefings**

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

## **PART 2 - BIDDER INSTRUCTIONS**

### **2.1 Standard Instructions, Clauses and Conditions**

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2018-05-22) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 Submission of Bids of 2003 Standard Instructions – Goods and Services – Competitive Requirements is amended as follows:

Delete: 60 days

Insert: 90 days

#### **2.1.1 SACC Manual Clauses**

A7035T List of Subcontractors

B1000T Condition of Material - Bid

### **2.2 Submission of Bids**

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

### **2.3 Enquiries - Bid Solicitation**

All enquiries must be submitted in writing by email to the Contracting Authority no later than ten (10) calendar days before the bid closing date at the following address: [neil.davies@pwgsc-tpsgc.gc.ca](mailto:neil.davies@pwgsc-tpsgc.gc.ca). Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

### **2.4 Applicable Laws**

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.



---

## PART 3 - BID PREPARATION INSTRUCTIONS

### 3.1 Bid Preparation Instructions

- (a) **Prices must appear in the Financial bid only. No prices must be indicated in any other section of the bid.**
- (b) The hard copy which bears the serial number "1" will be treated as the master copy and will take precedence over all other copies should there be any discrepancy between copies.
- (c) If there is a discrepancy between the wording of the soft copy and the hard copy number #1, the wording of the hard copy #1 will have priority over the wording of the soft copies.
- (d) Soft copies of the Bid shall be delivered in MS Word format.
- (e) Canada requests that bidders follow the format instructions described below in the preparation of their bid:
  - 1. use 8.5 x 11 inch (216 mm x 279 mm) paper; and
  - 2. use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 3. use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
  - 4. use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.
- (f) Signature of the Bid:
  - 1. Canada requires that each bid, at solicitation closing date and time or upon request from the Contracting Authority, be signed by the Bidder or by an authorized representative of the Bidder. If a bid is submitted by a joint venture, it must be in accordance with section 17 of 2003 (2018-05-22) Standard Instructions;
  - 2. In this solicitation, the "Bidder" means the legal entity submitting the Bid in response to the solicitation and does not include the parent, subsidiaries or other affiliates of that legal entity, or its subcontractors; and
  - 3. Bidders can sign their Bids by copying the front page of this solicitation, signing it, and submitting it as part of their Bids or by including a signature page in a prominent location in their Bids.

### (g) Cross-referencing

Each section of the Bidder's Bid should be written to the greatest extent possible on a stand-alone basis so that its content may be evaluated with a minimum of cross-referencing to other sections of the Bid. Cross-referencing within a proposal Section is permitted where its use would conserve space without impairing clarity.

(h) Except as specifically provided otherwise in this solicitation, Canada will evaluate the Bids on the documentation provided as part of that Bid. References in a proposal to additional information not submitted with the Bid, such as:

1. Web site addresses where additional information can be found;
  2. Technical manuals or brochures not submitted with the Bid;
- or
3. Existing standing offers, supply arrangements or contracts with the Government of Canada.

will not be considered.

(i) Due to the nature of the bid solicitation, bids transmitted by epost Connect service and by facsimile will not be accepted.

### **3.2 Canada requests that Bidders provide their bid in separately bound volumes as follows:**

#### **Volume I:**

Section I: Technical Bid, three (3) hard copies and two (2) soft copies on USB drive in MS Word format.

#### **Volume II:**

Section II: Financial Bid, one (1) hard copy

Section III: Certifications, one (1) hard copy

#### **Volume I:**

##### **Section I: Technical Bid**

In their technical bid, Bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient.

In order to facilitate the evaluation of the bid, Canada requests that Bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, Bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

##### **The Technical Bid must include:**

- (a) A duly completed Annex "C" Delivery Schedule
- (b) A duly completed to Annex "K" Mandatory Technical Criteria.
- (c) A duly completed to Annex "L" Point Rated Technical Criteria.

## **Volume II:**

### **Section II: Financial Bid**

Bidders must submit their financial bid in accordance with Annex "D" Basis of Payment and Annex "H" Detailed Price Breakdown. All prices must be in Canadian dollars, Delivered Duty Paid (DDP) Incoterms 2000 included or listed separately as one amount for deliveries, if applicable. The total amount of Applicable Taxes must be shown separately.

All prices quoted must be inclusive of all Travel and Living expenses, testing, acceptance and delivery to the destinations listed during the performance of this contract.

The Financial Bid shall also include:

- (a) The full legal name of the Bidder;
- (b) Complete contact information of the company representative responsible for the proposal;
- (c) Duly completed Annex "D" Basis of Payment; and
- (d) Duly completed Annex "H" Detailed Price Breakdown.

### **3.3 Exchange Rate Fluctuation**

SACC Manual Clause C3011T (2013-11-06).

### **Section III: Certifications**

Bidders must submit the certifications and additional information required under Part 5.

---

## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **4.1 Evaluation Procedures**

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.
- (c) Canada will use the Phased Bid Compliance Process described in 4.1.1.

#### **4.1.1 Phased Bid Compliance Process (PBCP)**

##### **4.1.1.1 General**

- (a) Canada is conducting the PBCP described below for this requirement.
- (b) Notwithstanding any review by Canada at Phase I or II of the PBCP, Bidders are and will remain solely responsible for the accuracy, consistency and completeness of their Bids and Canada does not undertake, by reason of this review, any obligations or responsibility for identifying any or all errors or omissions in Bids or in responses by a Bidder to any communication from Canada.

THE BIDDER ACKNOWLEDGES THAT THE REVIEWS IN PHASE I AND II OF THIS PBCP ARE PRELIMINARY AND DO NOT PRECLUDE A FINDING IN PHASE III THAT THE BID IS NON-RESPONSIVE, EVEN FOR MANDATORY

REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE IN SUCH EARLIER PHASE. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE. THE BIDDER ALSO ACKNOWLEDGES THAT ITS RESPONSE TO A NOTICE OR A COMPLIANCE ASSESSMENT REPORT (CAR) (EACH DEFINED BELOW) IN PHASE I OR II MAY NOT BE SUCCESSFUL IN RENDERING ITS BID RESPONSIVE TO THE MANDATORY REQUIREMENTS THAT ARE THE SUBJECT OF THE NOTICE OR CAR, AND MAY RENDER ITS BID NON-RESPONSIVE TO OTHER MANDATORY REQUIREMENTS.

- (c) Canada may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Canada to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.
- (d) The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC) 2003 (2017-04-27) Standard Instructions – Goods or Services – Competitive Requirements nor Canada's right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).

- (e) Canada will send any Notice or Compliance Assessment Report (CAR) by any method Canada chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Canada on the date and time it is received in Canada's email inbox at Canada's email address specified in the Notice or CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada. Canada is not responsible for late receipt by Canada of a response, however caused.

#### 4.1.1.2

##### **Phase I: Financial Bid**

- (a) After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation as set out under section 4.1.3.1. Canada's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.
- (b) Canada's review in Phase I will be performed by officials of the Public Services and Procurement Canada.
- (c) If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- (d) For Bids other than those described in c), Canada will send Notice to the Bidder identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.
- (e) The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.
- (f) In its response to the Notice, the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.

- (g) Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, only that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.
- (h) Canada will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Canada, will receive a Phase II review.

#### **4.1.1.3 Phase II: Technical Bid**

- (a) Canada's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation, set out under section 4.1.2, as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.
- (b) Canada will send a CAR to the Bidder identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- (c) A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.
- (d) The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.

- (e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- (f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, only that part of the original Bid as is permitted in this Section.
- (g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid.
- (h) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

#### **4.1.1.4 Phase III: Final Evaluation of the Bid**

- (a) In Phase III, Canada will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

#### **4.1.2 Mandatory Technical Evaluation**

The Phased Bid Compliance Process will apply only to mandatory technical criteria identified by the superscript <sup>(PB)</sup> in accordance with Annex K Mandatory Technical Criteria. Mandatory technical criteria not identified by the superscript <sup>(PB)</sup> will not be subject to the Phased Bid Compliance Process and will be evaluated at Phase III.

#### **4.1.3 Point Rated Technical Evaluation**

Bids that are found to be responsive to the Financial and Mandatory Technical Criteria will be subject to a point rated technical evaluation in accordance with Annex L Point Rated Technical Criteria. Each rated technical criteria will be scored individually. The Total Rated Technical Score will be equal to the sum of the points scored for each point rated technical requirement. The PBCP does not apply to the Point Rated Technical Evaluation. For clarity only the information contained in the original bid will be used for the Point Rated Technical Evaluation.

#### **4.1.4 Financial Evaluation**

##### **4.1.4.1 Mandatory Financial Criteria**

In order to be compliant the Bidder's proposal must meet all the requirements and provide all the information required by Part 3, Section II Financial Bid

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, Incoterms 2000 (Delivered Duty Paid - DDP), Canadian customs duties and excise taxes included.



## 4.2 Basis of Selection

To be declared responsive, a bid must:

- a) comply with all the requirements of the bid solicitation; and
- b) meet all mandatory criteria;

Bids not meeting (a) and (b) will be declared non-responsive

The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 20% for the technical merit and 80% for the price

To establish the technical merit, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 20%

To establish the price rating, each responsive bid will be prorated against the lowest evaluated price and the ratio of 80 %. The evaluated price will be the Total Price for Parts A + B + C in accordance with Annex H Detailed Price Breakdown.

For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.

Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

### EXAMPLE:

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 80/20 ratio of price and technical merit, respectively. The total available points equals 200 and the lowest evaluated price is \$45,000 (45).

	Bidder 1	Bidder 2	Bidder 3
Total Evaluated Technical Score	150	125	92
Bid Evaluated Price	\$55,000	\$50,000	\$45,000
Price Calculation Score	$45/55 \times 80$ = <u>65.45</u> points	$45/50 \times 80$ = <u>72.00</u> points	$45/45 \times 80$ = <u>80.00</u> points
Technical Merit Calculation Score	$150/200 \times 20$ = <u>15.00</u> points	$125/200 \times 20$ = <u>12.50</u> points	$92/200 \times 20$ = <u>9.20</u> points
Combined Score	$65.45 + 15 = \underline{80.45}$	$72.00 + 12.50 = \underline{84.50}$	$80.00 + 9.20 = \underline{89.20}$
Overall Rating	3rd	2nd	1st

In the example above Bidder 3 would be recommended for contract award.

---

## PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

### 5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

#### 5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the Integrity declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

### 5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame specified will render the bid non-responsive.

#### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

#### 5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the Employment and Social Development Canada (ESDC) - Labour's website ([http://www.esdc.gc.ca/en/jobs/workplace/human\\_rights/employment\\_equity/federal\\_contractor\\_program.page?&\\_ga=1.229006812.1158694905.1413548969#afed](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969#afed)).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

Solicitation No. - N° de l'invitation  
W8482-156383/B  
Client Ref. No. - N° de réf. du client  
W8482-156383

Amd. No. - N° de la modif.  
File No. - N° du dossier  
033mc.W8482-156383

Buyer ID - Id de l'acheteur  
033mc  
CCC No./N° CCC - FMS No./N° VME

---

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed Annex G Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed Annex G Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

## **PART 6 – SECURITY, FINANCIAL AND OTHER REQUIREMENTS**

### **6.1 Security Requirements**

1. Before award of a contract, the following conditions must be met:

- (a) the Bidder must hold a valid organization security clearance as indicated in Part 7 - Resulting Contract Clauses;
- (b) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work sites must meet the security requirements as indicated in Part 7 - Resulting Contract Clauses;
- (c) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;

### **6.2 Insurance Requirements**

The Bidder must provide a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified in Part 7, clause 14.

If the information is not provided in the bid, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

### **6.3 Financial Capability**

SACC Manual Clause A9033T (2012-07-16) Financial Capability

---

## PART 7 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### 1 Requirement

The Contractor must perform the Work in accordance with the Statement of Work Annex "A".

The Statement of Work Annex "A" provides the detailed requirements to be met in order to supply new Class approved Knuckle Boom Electro Hydraulic Marine Cranes (Cranes) to replace the existing Davit and Torpedo Handling/Rescue cranes (starboard) installed onboard the Halifax Class Ships and to procure the required engineering design data and Technical Data Package (TDP) to produce the required Engineering Change (EC).

#### 1.1 Option for Additional Cranes, Spare Parts and Special Purpose Tools

1. The Contractor grants to Canada the irrevocable option to procure up to fourteen (14) additional Cranes including spare parts and special purpose tools, under the same conditions. The Contractor agrees that if the options are exercised it will be paid in accordance with the applicable provisions as set out in Annex "D" Basis of Payment.
2. Canada may exercise the option(s) at any time by sending a written notice to the Contractor no later than 90 days prior to the delivery of the eighteenth (18<sup>th</sup>) crane. The option(s) may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only through a contract amendment.

#### 1.2 Design Documents

1. The Design Documents, (Initial, Preliminary and Critical) and Technical Data Package, shall be completed and design deliverables submitted in accordance with the SOW.
2. The Contractor shall submit the design packages deliverables for each of the Design Documents.
3. Where Canada alleges and the Contractor agrees that the design is defective or deficient, the Contractor shall correct the design.
4. Where the Contracting Authority and the Contractor's representative are unable to resolve the design defect or deficiency, they agree to follow the prescriptions of the Dispute Resolution clause.

#### 1.3 Production Schedule

1. The Production Schedule shall be in accordance with Annex "C "Delivery Schedule" of the Contract.
2. The Contractor is responsible for planning and scheduling the Work required herein. The Production Schedule shall be updated on a continuous basis.

#### **1.4 Drawings during Design and Manufacturing Phase**

1. All drawings shall be submitted to the Technical Authority for examination.
2. The review of the Contractor's drawings by Canada shall not relieve the Contractor of its contractual responsibility.

In particular, examination or approval of drawings shall not:

- (a) Relieve the Contractor of its obligation to ensure that all details are correct;
  - (b) Obligate Canada to accept an item that does not meet the Contract requirements;
  - (c) Confirm that an item complies with the Contract requirements; and
  - (d) Relieve the Contractor of the responsibility for any omissions and the consequences resulting thereof.
3. Any drawings which are supplied to the Contractor by or on behalf of Canada are for such purpose under the Contract as the Contractor may wish to use them but are not evidence of any interpretation to be given to the Contract requirements. Any use by the Contractor shall not relieve the Contractor of any responsibility under this Contract. The Contractor shall indemnify and save harmless Canada from any claims, actions, suits or proceedings based upon the use by the Contractor of such drawings.

#### **1.5 Additional / Unscheduled Work including Design Change**

1. The Contractor hereby acknowledges that Canada may require the Contractor to perform Additional / Unscheduled Work at any time and from time to time, during this Contract. The Additional / Unscheduled Work could include but not be limited to:
  - (a) Attendance at Set to Work (STW) procedure on vessel(s), Sea Acceptance Trials (SAT) and/or any other testing requirement that takes place outside the Contractor's facility.
  - (b) Additions or variations to the Work including Design Changes; and
  - (c) Dispensing with or change to any portion of the Work.
2. Any Additional / Unscheduled Work will be processed according to Annex "E", Procedure for Processing Additional / Unscheduled Work.
3. The Contractor shall perform the Additional / Unscheduled Work under the same terms and conditions of the Contract. The Additional / Unscheduled Work will be negotiated using the Additional / Unscheduled Work labor rates and mark-ups provided by the Contract.
4. The Contractor may request a change to the Work for Canada's consideration by submission of a request for change proposal to the Contracting Authority.
5. Request for extensions in the delivery date as a result of the Additional / Unscheduled Work must be presented at the time of the proposal otherwise extensions to the delivery date will not be considered.
6. No cost, Additional / Unscheduled Work: Notwithstanding the foregoing, should Canada deem it advisable to make any reasonable change in the Work during the course of the Work, provided the change is ordered before that particular part of the Work to which Canada refers is

commenced and involves no extra cost to the Contractor, such changes shall be made by the Contractor without extra cost to Canada.

## **1.6 Inspection and Acceptance of the Work**

1. Inspection will be done by the Technical Authority at the most appropriate location:
  - (a) During the Crane Design, manufacturing and factory acceptance, at the Contractor's facilities;
  - (b) During each Crane's acceptance testing, at locations indicated in the SOW; and
  - (c) For most of the Documentation, at Canada's facilities.
2. Inspection requirements shall be in accordance with the provisions of this Contract and include the following additional procedures:
  - (a) Non-conformance Report (NCR): A NCR will be issued for each Non-conformance noted by the Technical Authority. Each report will be uniquely numbered for reference purposes, will be signed and dated by the Technical Authority, and will describe the Non-conformance.

When the Non-conformance has been corrected by the Contractor and has been re-inspected and accepted by the Technical Authority, the Technical Authority will complete the NCR by signing and dating the NCR.

When Set-to-Work Acceptance Trials have been completed and the Contractor has corrected/addressed items on the Non-conformance list, an Acceptance Inspection of the Crane, shall be carried out by the Technical Authority. Three (3) working days prior to the scheduled Completion Date, the content of all Non-conformance Reports which have not been signed-off by the Technical Authority will be transferred to the Delivery Document prior to the Technical Authority certification of such document. A final Deficiencies Database shall be prepared for signature if necessary.

The Contractor shall correct all outstanding deficiencies during the warranty period at a time and place agreed to by the Contractor, the Technical Authority and the Contractual Authority.

- (b) Notwithstanding the above including the inspection by the Technical Authority, the discrepancy notices, the Non-conformance reports, or absences thereof, or corrections thereto, or acceptance thereof, do not relieve the Contractor of its obligations to satisfy the requirements of this Contract. As such, the Contractor shall correct any and all defects or deficiencies discovered at no additional cost to Canada.

## **1.7 Tests and Demonstrations Acceptance**

1. To enable the Technical Authority to certify that the Work has been performed satisfactorily, in accordance with the Contract, the Contractor shall schedule, coordinate, perform, and record all specified Tests and Demonstrations required by the Contract.
2. Where the Contract contains a specific performance requirement for any component, equipment, subsystem or system, the Contractor shall test such component, equipment, subsystem or system to the satisfaction of the Technical Authority, to prove that the specified performance has been achieved and that the component, equipment, subsystem or system performs as required by the Contract.



3. Tests and demonstrations shall be conducted in accordance with a logical, systematic schedule which shall ensure that all associated components and equipment are proven prior to subsystems demonstration or testing, and subsystems are proven prior to system demonstration or testing.
4. Where the Contract does not contain specific performance requirements for any component, equipment, subsystem or system, the Contractor shall demonstrate the performance of such component, equipment, subsystem or system to the satisfaction of the Technical Authority.
5. The Contractor shall keep written records of all tests and demonstrations conducted, including all rejections, comments, or recommendations made at such times. Records shall be in a format, and contain data, such that the Technical Authority can certify compliance of the component, equipment, subsystem, or system with the specified requirements.
6. The Contractor shall in all respects be responsible for the conduct of all tests in accordance with the requirements of this Contract.

Canada reserves the right to defer starting or, continuing with any tests for any reasonable cause including but not limited to equipment failure or degradation, lack of qualified personnel and inadequate safety standards.

## **2 Standard Clauses and Conditions**

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual(<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

### **2.1 General Conditions**

2030 (2018-06-21) General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

The article 2030 22 (2014-09-25) Warranty, is amended as follows;

At the end of the paragraph 1, add the following sentence;

"For the purpose of the Warranty only, the Acceptance of the Cranes will take place upon the successful completion of each Crane's Set to Work either on a ship or at a training facility. Acceptance of the four (4) spare cranes shall take place upon delivery to the designated facility identified in clause 3.2 Deliverables of the SOW.

1031-2 (2012-07-16) Contracting Cost Principles, apply to and form part of the Contract.

### **2.2 Supplemental General Conditions**

4006 (2010-08-16) Contractor to Own Intellectual Property Rights in Foreground Information, apply to and form part of the Contract.

### **2.3 Security Requirement**

There is a security requirements related to this contract.

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).
2. The Contractor/Offeror personnel requiring access to sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC.
3. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
4. The Contractor/Offeror must comply with the provisions of the:
  - (a) Security Requirements Check List and security guide (if applicable), attached at Annex I;
  - (b) Industrial Security Manual (Latest Edition).

### 3 Term of Contract

#### 3.1 Delivery Date

All the deliverables must be received in accordance with Annex "C" Delivery Schedule.

#### 3.2 Shipping Instructions, Delivered Duty Paid

Goods must be consigned and delivered to the destination specified in the contract:

Incoterms 2000 "Delivered Duty Paid" (DDP), Canadian customs duties and excise taxes included, to the destinations listed below.

Quantity	Address
9 (7 ship cranes and 2 spare cranes)	Canadian Forces Base Halifax Formation Commander HMC Dockyard Main Supply Building Bldg D-206 Door 1 to 13 Halifax, NS Canada B3K 5X5
1 (training crane)	Canadian Forces Base Halifax Coastal Training Facility Naval Fleet School Building S9 Halifax, NS Canada B3K 5X5
7 (5 ships cranes and 2 spare cranes)	Canadian Forces Base Esquimalt Base Commander Building 66 Colwood Victoria BC Canada V9A 7N2
1 (training crane)	Esquimalt Coastal Training Facility Canadian Forces Base Esquimalt Naval Fleet School Pacific Building N92 Esquimalt, BC Canada V9A 7N2

## 4 Authorities

### 4.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Neil Davies  
Title: Supply Team Leader  
Public Works and Government Services Canada  
Acquisitions Branch, Marine Systems Directorate  
11, rue Laurier, Place du Portage, Phase III, 6C2, Gatineau, QC, K1A 0S5  
Telephone: 819-420-0865  
Facsimile: 819-956-0897  
E-mail address: Neil.Davies@pwgsc-tpsgc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

### 4.2 Technical Authority

The Technical Authority for the Contract is: **\*To be inserted at contract award\***

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_ - \_\_\_\_ - \_\_\_\_  
Facsimile: \_\_\_\_ - \_\_\_\_ - \_\_\_\_  
E-mail address: \_\_\_\_\_

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority **however, the Technical Authority has no authority to authorize changes to the scope of the Work.** Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

### 4.3 Contractor's Representative \*To be inserted at contract award\*

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_ - \_\_\_\_ - \_\_\_\_  
Facsimile: \_\_\_\_ - \_\_\_\_ - \_\_\_\_  
E-mail address: \_\_\_\_\_

---

## **5 Payment**

### **5.1 Basis of Payment – Firm Prices**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, , the Contractor will be paid the firm prices, as specified in Annex “D” Basis of Payment and in accordance with Annex “B” Milestone Payment Schedule, Canadian customs duties and excise taxes included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

All project management fees shall be included for each item listed in the Milestone Payment Schedule at Annex “B”.

All firm prices are inclusive of all Travel and Living expenses. No Travel and Living expenses in the performance of the Work will be reimbursed to the Contractor.

### **5.2 Basis of Payment – Additional / Unscheduled Work**

1. The Additional / Unscheduled (A/U) Work Hourly Labour Rate for authorized A/U Work including Design Change, Engineering Change or change in the scope of work will be paid in accordance with:
  - (a) Annex “D” Basis of Payment;
  - (b) Annex “E” Procedure for Processing A/U Work;
  - (c) Contract Cost Principles 1031-2 (2012-07-16) and inclusive of a profit in accordance with Chapter 10 - Cost and Profit of the Supply Manual, Public Works and Government Services Canada (PWGSC); and
  - (d) The firm A/U Work labour rate shall be a blended rate of all classes of labour, engineering, supervision.
2. The Overtime Rate (1½) shall be as specified in Annex “D” Basis of Payment and shall not be paid unless authorized in writing by the Contracting Authority and for authorized A/U Work only and shall be calculated as follows:
  - (a) Time and one-half (1½) – The contractor shall be paid the firm A/U Work labour rate plus half of the A/U Work direct labour rate portion.
3. The Double Overtime Rate (2X) shall be as specified in Annex “D” Basis of Payment and shall not be paid unless authorized in writing by the Contracting Authority and for authorized A/U Work only and shall be calculated as follows:
  - (a) Double Time (2) – The contractor shall be paid the firm A/U Work labour rate plus the A/U Work direct labour rate portion.
4. For the performance of Additional / Unscheduled work by subcontractors, other than corporate affiliates of the Contractor, the Contractor shall be paid actual costs plus a firm mark-up of 10% of the net laid-down cost. Canadian customs duties and excise tax included and Applicable Taxes are extra.

## 5. Travel and Living Expenses – Additional / Unscheduled Work

- (a) The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the National Joint Council Travel Directive and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".
- (b) All travel must have the prior authorization of the Technical or Contracting Authority.
- (c) All payments are subject to government audit.

### 5.3 Milestone Payments

- 1. Canada will make milestone payments in accordance with Milestone Payment Schedule at Annex "B", detailed in the Contract and the payment provisions of the Contract, and approved by Canada if:
  - (a) an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
  - (b) the amount claimed is in accordance with the basis of payments;
  - (c) all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives; and
  - (d) all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.
- 2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of all Work required under the Contract if the Work has been accepted by Canada and a final claim for the payment is submitted.

### 5.4 Discretionary Audit for Additional / Unscheduled Work Only

SACC Manual clause C0100C (2010-01-11), Discretionary Audit - Commercial Goods and/or Services.

### 5.5 Time Verification for Additional / Unscheduled Work Only

SACC Manual clause C0711C (2008-05-12), Time Verification

### 5.6 Limitation of Price

SACC Manual clause C6000C (2011-05-16) Limitation of Price

---

## 6 Invoicing Instructions – Milestone Payment Claim

1. The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment.

Each claim must show:

- (a) all information required on form PWGSC-TPSGC 1111;
  - (b) all applicable information detailed under the section entitled "Invoice Submission" of the general conditions; and
  - (c) the description and value of the milestone claimed as detailed in the Contract.
2. Applicable Taxes must be calculated on the total amount of the claim.
  3. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the Technical Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

The Technical Authority will then forward the original and two (2) copies of the claim to the Contracting Authority for certification and onward submission to the Payment Office for the remaining certification and payment action.

The Contractor must not submit claims until all work identified in the claim is completed.

## 7 Certifications and Additional Information

### 7.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

### 7.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

## 8 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in \_\_\_\_\_. (The Contracting Authority will insert the name of the province or territory as specified by the Bidder in its bid, if applicable.)

## 9 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the supplemental General Conditions 4006 (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information;
- (c) the General Conditions 2030 (2016-04-04), General Conditions - Higher Complexity - Goods;
- (d) 1031-2 (2012-07-16), Contract Cost Principles;
- (e) Annex A, Statement of Work;
- (f) Annex B, Milestone Payment Schedule;
- (g) Annex D, Basis of Payment
- (h) Annex H, Financial Bid Presentation Sheet
- (i) Annex C, Delivery Schedule;
- (j) Annex J, Questions and Responses – Solicitation B
- (k) Annex I, Security Requirement Check List
- (l) Annex E, Procedure for Processing Additional / Unscheduled Work;
- (m) Annex F, Insurance Requirements
- (n) Annex G, Federal Contractors Program for Employment Equity - Certification; and
- (o) the Contractor's bid dated \_\_\_\_\_, (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award: "* \_\_\_\_\_ *" or "* \_\_\_\_\_ *" as clarified on "* \_\_\_\_\_ *" or "* \_\_\_\_\_ *" and insert date(s) of clarification(s) or amendment(s)).*

## 10 Foreign Nationals (Canadian Contractor OR Foreign Contractor)

*SACC Manual* clause A2000C (2006-06-16) Foreign Nationals (Canadian Contractor)

**OR**

*SACC Manual* clause A2001C (2006-06-16) Foreign Nationals (Foreign Contractor)

## 11. Defence Contract

The Contract is a defence contract within the meaning of the *Defence Production Act*, R.S.C. 1985, c. D-1, and must be governed accordingly.

Title to the Work or to any materials, parts, work-in-process or finished work must belong to Canada free and clear of all claims, liens, attachments, charges or encumbrances. Canada is entitled, at any time, to remove, sell or dispose of the Work or any part of the Work in accordance with section 20 of the *Defence Production Act*.

---

## 12 Quality plan

No later than **20 days** after the effective date of the Contract, the Contractor must submit for acceptance by the RCN/TA a Quality Plan prepared according to the latest issue (at contract date) of ISO 10005:2005 "Quality management systems - Guidelines for quality plans". The Quality Plan must describe how the Contractor will conform to the specified quality requirements of the Contract and specify how the required quality activities are to be carried out, including quality assurance of subcontractors. The Contractor must include a traceability matrix from the elements of the specified quality requirements to the corresponding paragraphs in the Quality Plan.

The documents referenced in the Quality Plan must be made available when requested by Public Services and Procurement Canada or the RCN TA.

If the Quality Plan was submitted as part of the bidding process, the Contractor must review and, where appropriate, revise the submitted plan to reflect any changes in requirements or planning which may have occurred as a result of pre-contract negotiations.

Upon acceptance of the Quality Plan by the RCN TA, the Contractor must implement the Quality Plan. The Contractor must make appropriate amendments to the Quality Plan throughout the term of the contract to reflect current and planned quality activities. Amendments to the Quality Plan must be acceptable to the RCN TA.

If the Contract includes the option for software design, development or maintenance of software, the Contractor must interpret the requirements of ISO 9001:2008 "Quality management systems - Requirements", according to the guidelines of the latest issue (at contract date) of ISO/IEC 90003:2004 "Software engineering - Guidelines for the application of ISO 9001:2000 to computer software".

## 13 Insurance Requirements

The Contractor must comply with the insurance requirements specified in Annex F Insurance Requirements. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfil its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. For Canadian-based Contractors, coverage must be placed with an Insurer licensed to carry out business in Canada, however, for Foreign-based Contractors, coverage must be placed with an Insurer with an A.M. Best Rating no less than "A-". The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

## 14 Limitation of Contractor's Liability for Damages to Canada

- 1 This section applies despite any other provision of the Contract and replaces the section of General Conditions 2030 26 (2008-05-12) entitled "Liability". Any reference in this section to damages caused by the Contractor also includes damages caused by its employees, as well as its subcontractors, agents, and representatives, and any of their employees.
- 2 Whether the claim is based in contract, tort (including negligence), or another cause of action, the Contractor's liability for all damages suffered by Canada caused by the Contractor's



performance of or failure to perform the Contract is limited to \$10 million per incident or occurrence to an annual aggregate of \$20 million for losses or damage caused in any one year of carrying out the Contract, each year starting on the date of coming into force of the Contract or its anniversary. This limitation of the Contractor's liability does not apply to:

- a) any infringement of intellectual property rights;
- b) any breach of warranty obligations;

c) any liability of Canada to a third party arising from any act or omission of the Contractor in performing the Contract.

d) any loss for which the policies of insurance specified in the Contract or any other policies of insurance held by the Contractor that would provide insurance coverage;

- 3 Each Party agrees that it is fully liable for any damages that it causes to any third party in connection with the Contract, regardless of whether the third party makes its claim against Canada or the Contractor. If Canada is required, as a result of joint and several liability, to pay a third party in respect of damages caused by the Contractor, the Contractor must reimburse Canada for that amount.
- 4 The Parties agree that nothing herein is intended to limit any insurable interest of the Contractor nor to limit the amounts otherwise recoverable under any insurance policy. The Parties agree that to the extent that the insurance coverage required to be maintained by the Contractor under this Contract or any additional insurance coverage maintained by the Contractor, whichever is greater, is more than the limitations of liability described in sub article (14.2), the limitations provided herein are increased accordingly and the Contractor shall be liable for the higher amount to the full extent of the insurance proceeds recovered.
- 5 If, at any time, the total cumulative liability of the Contractor for losses or damage suffered by Canada caused by the Contractor's performance of or failure to perform the Contract, excluding liability described under subsection 14.2(a), (b), (c) and (d) exceeds \$40 million, either Party may terminate the Contract by giving notice in writing to the other Party and neither Party will make any claim against the other for damages, costs, expected profits or any other such loss arising out of the termination, but no such termination or expiry of the Contract shall reduce or terminate any of the liabilities that have accrued to the effective date of the termination.
- 6 The date of termination pursuant to this Article, shall be the date specified by Canada in its notice to terminate, or, if the Contractor exercises the right to terminate, in a notice to the Contractor from Canada in response to the Contractor's notice to terminate. The date of termination shall be in Canada's discretion to a maximum of 12 months after service of the original notice to terminate served by either Party pursuant to sub article 5, above.
- 7 In the event of a termination under this Article, the Contract will automatically remain in force subject to all of the same terms and conditions until the date of termination and the Contractor agrees that it will be paid in accordance with the applicable provisions as set out in the Contract and that the Contractor's liability remains as specified in sub articles 1 through 4 above.
- 8 Nothing shall limit Canada's other remedies, including Canada's right to terminate the Contract for default for breach by the Contractor of any of its obligations under this Contract, notwithstanding that the Contractor may have reached any limitation of its liability hereunder.

## 15 Dispute Resolution

The parties agree to follow the procedures below for the settlement of any disputes which may arise throughout the life of this Contract:

- (a) Disputes arising from this Contract will in the first instance be resolved by the Contracting Authority and the Contractor's Contract Administrator within (15) working days or such additional time as may be agreed to by both parties.
- (b) Failing resolution under (a) above, the Manager of the Small Vessel Construction Division of the Marine Systems Directorate at PWGSC and the Contractor's Representative Supervisor will attempt to resolve the dispute within an additional fifteen (15) working days.
- (c) Failing resolution under (a) or (b) above, the Senior Director of the Marine Systems Directorate at PWGSC, and the Contractor's Senior Management will attempt to resolve the dispute within an additional thirty (30) working days.
- (d) Notwithstanding the above procedure, either party may seek a decision through the courts at any time during the dispute.

## 16 Failure to Deliver

Time is of the essence for this Contract. Failure to deliver by the date(s) specified in the Contract will prejudice Canada.

Delivery is an essential part of this Contract. Except for excusable delays notified in accordance with Section 11 of 2030 General Conditions - Higher Complexity - Goods, failure to deliver by the date(s) specified in this Contract will prejudice the Government of Canada and will, at the Government of Canada's discretion, entail either:

- a. Contract Termination in accordance with 2030 General Conditions Sections 10 (Time of the Essence) and 31 (Default by the Contractor); or
- b. Consideration for Contract Amendment. Delivery date(s) will not be extended without consideration being provided by the Contractor in the form of adjustment to the price, warranty, quantity and / or service to be provided."

## 17 SACC Manual Clauses

D2000C	(2007-11-30), Marking
D2001C	(2007-11-30), Labelling
D2025C	(2013-11-06), Wood Packaging Material
D3015C	(2014-09-25), Dangerous Goods / Hazardous Products - Labelling and Packaging Compliance
B4042C	(2008-05-12), Identification Markings
B4043C	(2016-01-28), Military Nomenclature
B4061C	(2008-05-12), NATO Codification – Data Requirements
D5510C	(2014-06-26), Quality Assurance Authority (DND) Canadian Based Contractor
D5515C	(2010-01-11), Quality Assurance Authority (DND) Foreign Based and United States Contractor
D5604C	(2008-12-12), Release Documents (DND) Foreign Based Contractor
D5605C	(2010-01-11), Release Documents (DND) United States Based Contractor
D5606C	(2012-07-16), Release Documents (DND) Canadian Based Contractor
D5620C	(2012-07-16), Release Documents - Distribution
D9002C	(2007-11-30), Incomplete Assemblies.

**ANNEX A**

**STATEMENT OF WORK (SOW)**

**FOR THE PROCUREMENT OF A**

**REPLACEMENT CRANE**

**FOR THE**

**ROYAL CANADIAN NAVY (RCN)**

**HALIFAX CLASS SHIPS**

**Prepared by Directorate of Naval Platform Systems (DNPS 6-3)**

**445 Boulevard De La Carrière**

**Gatineau, QC**

Page 1 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

## Table of Contents

<b>1</b>	<b>SCOPE .....</b>	<b>8</b>
1.1	PURPOSE .....	8
1.2	BACKGROUND .....	8
1.3	OBJECTIVES OF THE CRANE PROCUREMENT .....	9
1.4	ACRONYMS AND ABBREVIATIONS .....	9
<b>2</b>	<b>APPLICABLE DOCUMENTS .....</b>	<b>12</b>
2.1	GOVERNMENT DOCUMENTS .....	12
2.2	NON-GOVERNMENT DOCUMENTS.....	13
2.3	ORDER OF PRECEDENCE .....	14
<b>3</b>	<b>PROJECT DELIVERABLES .....</b>	<b>15</b>
3.1	GENERAL .....	15
3.2	DELIVERABLES .....	15
3.3	DATA REVIEWS AND REVISIONS .....	17
<b>4</b>	<b>PROJECT MANAGEMENT .....</b>	<b>19</b>
4.1	ORGANIZATION.....	19
4.1.1	Project Manager.....	19
4.1.2	Contractor's Point of Contact .....	19
4.2	PROJECT MANAGEMENT PLAN .....	19
4.2.1	Configuration Management Strategy.....	19
4.2.2	Quality Assurance (QA) Plan .....	19
4.3	SECURITY MANAGEMENT .....	19
4.3.1	Access to Canada's Facilities .....	19
4.4	PROJECT MEETING.....	19
4.4.1	Project Kick Off Meeting .....	19
4.4.2	Project Review Meetings.....	20
4.4.3	Engineering Reviews and Audits.....	20
4.4.4	Other Scheduled Meetings.....	20
4.4.5	Meeting Arrangements .....	21
4.4.6	Meeting Support .....	21
4.4.7	Meeting Minutes.....	21
4.4.8	Meeting Cancellations .....	21
4.5	PROBLEM REPORTING.....	22
4.6	ACTION ITEM LIST (AIL).....	22
<b>5</b>	<b>NEW CRANE REQUIREMENT.....</b>	<b>23</b>
5.1	CRANE PERFORMANCE REQUIREMENTS .....	23
5.1.1	Crane Physical Constraints.....	25
5.2	CRANE GENERAL DESIGN.....	25
5.2.1	Survivability .....	25
5.2.2	Crane Structure Design.....	27
5.2.3	Stability .....	28
5.3	CRANE ELECTRICAL AND CONTROL REQUIREMENTS.....	28
5.3.1	Electrical Requirements.....	28
5.3.2	Crane Control System Requirements.....	29
5.4	CRANE HYDRAULIC REQUIREMENTS .....	30
5.5	CRANE MECHANICAL REQUIREMENTS.....	31
5.5.1	Boom Travel and Hoisting Requirements .....	31
5.5.2	Auxiliary/Ancillary System Requirements .....	31
5.5.3	Crane and Load Interface system .....	32
5.6	ENVIRONMENTAL .....	32
5.7	CRANE SAFETY REQUIREMENTS .....	35

5.7.1	Constant Tensioning .....	35
5.8	SPARE PARTS AND MAINTENANCE REQUIREMENTS.....	35
5.8.1	Spare Parts .....	35
5.8.2	Maintenance Requirements .....	36
5.9	CRANE STORAGE .....	36
<b>6</b>	<b>ACCEPTANCE TESTING.....</b>	<b>37</b>
6.1	COORDINATION WITH THE INSPECTIONS AND TESTS PLAN .....	37
6.2	CRANE AND VESSEL'S INSTALLATION PACKAGES ACCEPTANCE TESTING .....	37
6.2.1	Crane Factory Acceptance Test (FAT).....	37
6.2.2	Crane STW .....	37
6.2.3	Crane Sea Acceptance Trials (SAT).....	38
6.3	TEST MANAGEMENT .....	38
6.3.1	Crane Factory Acceptance Test (FAT) Plan and Procedures .....	38
6.3.2	Crane STW Plan and Procedures.....	38
6.3.3	Crane Sea Acceptance Trials (SAT) Plan and Procedures .....	38
6.3.4	Crane Factory Acceptance Test (FAT) Reports.....	38
6.3.5	Crane STW Reports.....	39
6.3.6	Crane Sea Acceptance Trials (SAT) Reports.....	39
6.4	CERTIFICATION .....	39
6.4.1	Certifications by Classification Society.....	39
6.4.2	Work Acceptance .....	39
6.4.3	New Crane Commissioning .....	39
<b>7</b>	<b>INTEGRATED LOGISTICS SUPPORT (ILS).....</b>	<b>40</b>
7.1	GENERAL .....	40
7.2	MAINTENANCE OF THE CRANE .....	40
7.2.1	Maintenance Concept .....	40
7.2.2	Spare Parts .....	40
7.2.3	Special Purpose Tools (SPT).....	40
7.3	CADRE TRAINING .....	40
7.3.1	Number of Cadre Training Sessions and Students .....	40
7.3.2	Training Material and Content.....	40
7.3.3	Training Location and Training Equipment .....	41
7.3.4	Language .....	41
7.4	DOCUMENTATION .....	41
7.4.1	Operations/Maintenance Manual.....	41
7.4.2	Provisioning Parts Breakdown (PPB).....	41
7.4.3	Recommended Spare Parts list (RSPL) .....	41
7.4.4	Technical Drawing Package .....	41
7.4.5	Training Package .....	41
7.4.6	Electronic Labelling .....	41
7.5	TECHNICAL DOCUMENTATION.....	42
7.5.1	Engineering Data Access.....	42
7.5.2	Original Equipment Manufacturer (OEM) .....	42
7.6	PACKAGING, HANDLING, STORAGE & STORAGE ABILITY .....	42
7.6.1	General .....	42
7.6.2	Packaging Methods and Levels .....	42
7.6.3	Marking of Packages .....	42
7.6.4	Shelf Life Items .....	42
<b>8</b>	<b>CONTRACT DELIVERABLE REQUIREMENTS LIST (CDRL) AND DATA ITEM DESCRIPTION (DID).....</b>	<b>43</b>
8.1	GENERAL .....	43
8.1.1	Document Changes/Updates.....	43
8.1.2	Deliverable Format and Number of Copies:.....	43
8.2	CDRL AND DID SUMMARIES .....	43
8.2.1	Project Management Summary.....	43

8.2.2	Engineering Summary .....	44
8.2.3	Acceptance Testing Summary .....	44
8.2.4	Integrated Logistics Support Summary .....	44
8.3	CRDLs .....	45
8.3.1	Project Management CDRL Details .....	45
8.3.2	Engineering CDRL Details.....	46
8.3.3	Acceptance Testing CDRL Details.....	48
8.3.4	Integrated Logistics Support CDRL Details .....	49
8.4	DATA ITEM DESCRIPTIONS .....	51
8.4.1	Project Management DIDs .....	51
8.4.2	Engineering DIDs .....	56
8.4.3	Acceptance Testing DIDs.....	68
8.4.4	Integrated Logistics Support DIDs .....	74

## Table of Tables

Table 1-1: Acronyms and Abbreviations.....	11
Table 2-1: Government References .....	12
Table 2-2: Non-Government References.....	14
Table 3-1: Project Deliverables .....	17
Table 5-1: General Performance Requirements .....	24
Table 5-2: RCN RHIB Envelope.....	24
Table 5-3: Crane Operation Parameters .....	25
Table 5-4: Crane Physical Constraints .....	25
Table 5-5: Airborne Noise Requirements.....	26
Table 5-6: Structure Borne Vibration Criteria.....	26
Table 5-7: Structure-Borne Vibration Requirements .....	26
Table 5-8: Environmental Requirements.....	34
Table 8-1: Project Management Summary .....	43
Table 8-2: Engineering Summary.....	44
Table 8-3: Acceptance Testing Summary .....	44
Table 8-4: Integrated Logistics Support Summary.....	44
Table 8-5: CDRL – PM-01 .....	45
Table 8-6: CDRL – PM-02 .....	45
Table 8-7: CDRL – PM-03 .....	45
Table 8-8: CDRL – PM-04 .....	46
Table 8-9: CDRL – PM-05 .....	46
Table 8-10: CDRL – EN-01 .....	46
Table 8-11: CDRL – EN-02 .....	47

Table 8-12: CDRL – EN-03 .....	47
Table 8-13: CDRL – EN-04 .....	47
Table 8-14: CDRL – AT-01 .....	48
Table 8-15: CDRL – AT-02 .....	48
Table 8-16: CDRL – AT-03 .....	48
Table 8-17: CDRL – AT-04 .....	49
Table 8-18: CDRL – LOG-01 .....	49
Table 8-19: CDRL – LOG-02 .....	49
Table 8-20: CDRL – LOG-03 .....	50
Table 8-21: DID-PM-01 .....	51
Table 8-22: DID-PM-02 .....	52
Table 8-23: DID-PM-03 .....	53
Table 8-24: DID-PM-04 .....	54
Table 8-25: DID-PM-05 .....	55
Table 8-26: DID-EN-01 .....	58
Table 8-27: DID-EN-02 .....	61
Table 8-28: DID-EN-03 .....	64
Table 8-29: DID-EN-04 .....	67
Table 8-30: DID-AT-01 .....	69
Table 8-31: DID-AT-02 .....	70
Table 8-32: DID-AT-03 .....	72
Table 8-33: DID-AT-04 .....	73
Table 8-34: DID-LOG-01 .....	75
Table 8-35: DID-LOG -02 .....	77



Table 8-36: DID-LOG -03.....	80
------------------------------	----

# 1 Scope

## 1.1 Purpose

This Statement of Work (SOW) defines the technical and performance requirements for eighteen (18) new Class Society approved, personnel lifting, Electro Hydraulic Knuckle Boom Marine Cranes (Crane), to be procured to replace the existing Rigid Hull Inflatable Boat (RHIB) Davit and Torpedo Handling/Rescue Crane (Starboard) installed onboard the RCN Halifax Class Ships (the vessel), and for the required detailed engineering design data and Technical Data Package (TDP) to enable DND to produce the required Engineering Change (EC) installation specification package. The removal of the existing davits and cranes, and all related equipment, as well as the integration and installation of the new cranes will be achieved by Canada under separate contracted work packages. The eighteen (18) cranes will be assigned one to each of the twelve (12) Halifax Class Frigates, one to each of the two (2) Naval Fleet Schools, with four (4) reserved as serviceable spares.

This SOW also establishes an option to buy an additional fourteen (14) cranes of the same design that will potentially be required to support an RCN project to procure new Multi-Role Boats that would be embarked, launched and recovered on the port side of Halifax Class Vessels.

The new cranes with the TDP and 2 years spare parts will be purchased under the contract. The design and manufacturing of the crane, its related equipment and components, Set to Work (STW) and Tests and Trials requirements must be in accordance with rules and regulations of a recognised Classification Society standard (ie For Lloyds, Regulations for “Lifting Appliances in a Marine Environment (LAME)”. Therefore, all necessary surveys, inspections, assessments, calculations, designs, drawings, certification, approval and associated work required to develop the crane TDP must be done by a certified Naval Architect and /or Engineer employed or subcontracted by the Contractor.

The crane replacement should be accomplished by the acquisition of Commercial Off The Shelf (COTS) design with minimal customization including the crane components, integration, design qualification tests, training, Integrated Logistics Support (ILS) and documentation.

## 1.2 Background

There is one (1) existing 7.3 m RHIB davit with a 2261 kg lifting capacity and two (2) Knuckle Boom<sup>1</sup> (KB) cranes (one port and one starboard), each with a lifting capacity of 1564 kg fitted on each of the twelve (12) Halifax class frigates. The Hydraulic power units for these cranes are fitted in compartments adjacent and remote to the lifting appliance. As a result of increased operational demand and obsolescence, the existing davit and crane configuration on Halifax Class no longer meets the operational requirements of the ships. Furthermore, the RHIB Davit does not have the lifting capacity required to support the anticipated arrival of the RCN’s new Multi-Role Boat, boats used by Other Government Departments, or to safely

---

<sup>1</sup> Please note the term knuckle boom crane will be used as an all-encompassing term for an articulated crane with or without more than one pivot point. Its abbreviated definition will be KB.

Page 8 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

launch and recover the existing RHIB with embarked Naval Boarding Party (NBP) personnel, as required by NBP operating procedures.

The existing davit and crane have reached the end of their capability life cycle. The cost of repairs has greatly increased due to the age and obsolescence challenges of this equipment. Replacement of these two (2) lifting appliances on the starboard side, with one (1) crane of the type described in this SOW, will free space on the boat deck, will provide capability in embarking a larger RHIB when conducting NBP related operations, will support the required launch and recover of the RHIB with embarked NBP personnel, will allow the hoist of cargo and munitions, will support operations with the RCN's future MRB and remove the need to maintain the two (2) separate obsolete lifting appliances.

The lifting appliance will be installed on HMC ships during scheduled maintenance periods. Availability of these ships for equipment installation is based on national security and budgetary requirements. Installations for all ships are expected to extend over a four (4) year period.

### 1.3 Objectives of the Crane Procurement

The fundamental objectives of the crane procurement are to:

1. Acquire eighteen (18) versatile, Class Society approved cranes with the lifting capacities, capabilities and size constraints defined in this SOW to replace the RHIB Davit and Torpedo Handling Crane (THC) on Halifax Class ships, starboard side, in order to support and sustain all required Halifax Class operations through to at least 2036, the anticipated end of life of the class;
2. Acquire crane detailed engineering design data and TDP consistent with the requirements of a Class Society based on the requirements of LAME loading factors and to the satisfaction of the Naval Administration Authority, to be used by Canada in development of EC installation specification and to support the installation, test and trials of the crane;
3. Establish an option to purchase an additional fourteen (14) identical cranes, to be installed on the Halifax Class ships port side, to support the RCN's future Multi-Role Boat that is being procured under a separate project; and
4. Acquire cranes that:
  - a) Uses the vessel's existing electrical power supplies;
  - b) Uses to the greatest extent the vessel's existing mechanical components and available structure; and
  - c) Fit inside the space envelope defined in this SOW; and
  - d) Locate the new Hydraulic Power Unit(s) in the adjacent/remote location where they are presently fitted.

### 1.4 Acronyms and Abbreviations

Acronyms or Abbreviations	Definition
AIL	Action Item List
ANSI	American National Standards Institute
AR	As Required by Class

Page 9 of 80	Halifax Replacement Crane	SOW	Revision 10	Date 24 May 2018
--------------	---------------------------	-----	----------------	---------------------

Acronyms or Abbreviations	Definition
Ancilliary	machines and other technical things which are used with the main items of equipment to create a complete system
c/w	Complete with
CA	Contracting Authority/ Contract Award
CANSOFCOM	Canadian Military Unit Acronym
CDD	Critical Design Documents
CDR	Critical Design Review
CDRL	Contract Deliverable Requirement List
CFFS	Canadian Forces Fleet School
CMP	Configuration Management Plan
COTS	Commercial Off The Shelf
CPM	Class Program Manager
CS	Classification Society
CTP	Cadre Training Package
DID	Data Item Description
DND	Department of National Defence
DTP	Dock Trial Plan
DWG	Drawing
EC	Engineering Change
FAT	Factory Acceptance Test
FPM	Final Project Meeting
FSR	Field Service Representative
HFX	Halifax (Class of ship)
HMCS	Her Majesty's Canadian Ship
Hz	Hertz
IAW	In Accordance With
IDD	Initial Design Documents
IDR	Initial Design Review
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
ILS	Integrated Logistics Support
IOT	In Order To
ISO	International Organization for Standardization
ITP	Inspection and Test Plan
IWRC	Independent Wire Rope Core
KB	Knuckle Boom
kg	Kilogram
kW	Kilowatt
LAME	Lifting appliances in a Marine Environment (offshore)
LAR	Launch and Recovery Cycle
Lb/lb	pound (weight)
LED	Light Emitting Diode
LLIL	Long lead Items List

Acronyms or Abbreviations	Definition
LR	Lloyds Rules (Classification Society)
LNR	Lloyds Naval Rules
m	Meter
MCC	Motor Control Center
MM	Millimeter
MRB	Multi Role Boat
MSDS	Material Safety Data Sheet
NACE CIP	National Association of Corrosion Engineers. Coating Inspector Program
NBP	Naval Boarding Party
OEM	Original Equipment manufacturer
PCA	Physical Configuration Audit
PDD	Preliminary Design Documents
PDF	Portable Document Format
PDR	Preliminary Design Review
PLC	Programmable Logic Controller
PM	Project Manager
PMP	Project Management Plan
PPB	Provisioning Parts Breakdown
PRM	Project Review Meeting
PS	Project Schedule
PSR	Project Status Reports
QA	Quality Assurance
RCN	Royal Canadian Navy
RFP	Request for Proposal
RHIB	Rigid Hulled Inflatable Boat
RSPL	Recommended Spare Parts List
s	seconds
SAT	Sea Acceptance Trials
SOLAS	Safety of Life at Sea
SOW	Statement Of Work
SPT	Special Purpose Tools
SRR	System Requirement Review
stbd	Starboard
STW	Set To Work
SWL	Safe Working Load
TA	Technical Authority
TDP	Technical Data Package
Tm	Metric Tonne
VAC	Voltage Alternative Current
WAM	Work Acceptance Meeting
WBS	Work Breakdown Structure
WLL	Working load Limit

**Table 1-1: Acronyms and Abbreviations**

## 2 Applicable Documents

### 2.1 Government Documents

Where standards are referenced in this document, the whole standard may not apply unless specifically directed. The reference will indicate what tailoring is required by the Technical Authority. If no tailoring is specified, then the Contractor must specify the extent of his compliance to the referenced standard in his proposal. If any referenced standard or regulation of Table 2-1 has been superseded by a new revision or it has become obsolete and it has been replaced by a new standard or it has not been replaced, then the Contractor must use the latest revision or replaced standard or an equivalent standard respectively.

Document	Name	Latest Revision
D-01-400-002/SF-001	Specification for levels of engineering Drawings.	
C-01-100-100/AG-006	Specification Writing, Format and Production of Technical Publications	
C-01-002-000/SG-001	Naval Evacuation, Escape and Rescue Standard	2014-03-24
D-03-003-007/SG-000	Specification for Design and Test Criteria for Shock Resistant Equipment in Naval Ships	Issue 4, 1978-08-16
D-03-003-021/SG-005	Standard for the Design and Installation of Shock, Vibration and Acoustic Hardware Components in Ships	1981-09-11
C-03-011-004/MS-001	Hydraulic Systems for HMC Ships- General Design Requirements, Fabrication Practices and Cleanliness Monitoring Procedures	1999-07-08
C-28-020-001/TB-001	In-Service Certification Requirements For Shipboard Lifting Appliances	2011-09-01
C-01-100-100/AG-006	Specification Writing, Format and Production of Technical Publications	1996-03-01
STANAG 4194 (Ed1)	Standardized Wave and Wind Environments and Shipboard Reporting of Sea Conditions.	STANAG 4194 (Ed1)
CFTO C-39-003-001/AG-001	Helicopter/Ship Interface Design Guidance and Clearance Criteria Manual.	2014-10-10

**Table 2-1: Government References**

Page 12 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

## 2.2 Non-Government Documents

Where standards are referenced in this document, the whole standard may not apply unless specifically directed. The reference will indicate what tailoring is required by the Technical Authority. If no tailoring is specified, then the Contractor must specify the extent of his compliance to the referenced standard in his proposal. If any referenced standard or regulation of Table 2-2 has been superseded by a new revision or it has become obsolete and it has been replaced by a new standard or it has not been replaced, then the Contractor must use the latest revision or replaced standard or an equivalent standard respectively.

Standard or Regulation	Title	Comments
CSA W47.1 1983		
CSA W47.2-M1987(R1998)	Canadian Welding Bureau Standard for the fusion welding of aluminum and aluminum alloys	
IEEE 45	Recommended Practice for Electric Installations on Shipboard	
IEC 60092-504	Electrical Installations in Ships – Part 504: Special Features – Control and Instrumentation	
CSA C22.1	98 Canadian Electrical Code Standard Part I Safety Standard for Electrical Installations	
CSA C22.2 No. 0-10	General Requirements – Canadian Electrical Code Part II	
ULC –S102.4-1987(R1998)	Underwriters Laboratory of Canada Standard for Test for Fire and Smoke Characteristics of Electrical Wiring and Cable	
IEC 60533	Electrical and Electronic Installations in Ships – Electromagnetic compatibility	
ISO 9001:2008	Quality Management Systems – Requirements	
ISO 12944	Corrosion Protection of steel structures by protective paint systems	
SOLAS	International Convention for the Safety of Life at Sea (SOLAS), and the Canadian Supplement to the SOLAS	

Standard or Regulation	Title	Comments
	Convention. LSA Code CH VI	
Classification Society Rules	Rules of a recognized Classification Society as identified under the Delegated Statutory Inspection Program (DSIP)	e.g. Lloyd's Register Part 5 (Main and Auxiliary Machinery),  Lloyd's Register Part 6 (Control and Electrical),  Lloyd's Register's Code for Lifting Appliances in a Marine Environment, Current Version at CA  Lloyd's Register's Rules for the Manufacture, Testing and Certification of Materials
Canada Shipping Act 2001	Canada Shipping Act 2001 and subsequent regulations pertaining to a ship having general particulars as specified under Section 5.4 of this specification	
MIL-STD-1521B	Technical Reviews and Audits for Systems / Equipment	
PMBOK Guide – 5th Edition	Work Breakdown Structure	
ANSI-649B: 2011	Configuration Management Plan	
IEC 60300-3-12:2011	Dependability Management – Application Guide – Integrated Logistic Support	
STANAG 4194	Standardized Wave And Wind Environments and Shipboard Reporting of Sea Conditions	To be used a Sea State Definition  NATO North Atlantic

**Table 2-2: Non-Government References**

### 2.3 Order of Precedence

In the event of a conflict between the contents of this document and the applicable portions of the referenced technical documents, the Contractor must inform the Technical Authority (TA) of the differences and request for a resolution.



### **3 Project Deliverables**

#### **3.1 General**

In order to satisfy the requirements of this SOW, the Contractor must;

1. Procure or design, customize, manufacture, integrate, Set to Work (STW) test, Factory Acceptance Test (FAT), Sea Acceptance Trials (SAT) and deliver eighteen (18), with an option to purchase an additional fourteen (14), Class Society certified and approved personnel/Cargo cranes, complete with:
  - a) Detailed plans and procedures for
    - i. STW
    - ii. Commissioning
    - iii. Test and trials
  - b) All associated on-board equipment required (ie hydraulic unit, constant tension unit, remote controller, hook, etc) to enable crane operation detailed at table 5.1.
  - c) TDP.
  - d) 2 years spare parts for each crane as described in section 5.8.1.
  - e) Provision of a FSR on an 'as and when' required basis.
  - f) Post construction/FAT contractor crane storage as described in section 5.9.
2. Develop and deliver Class Society certified and approved cranes and complete TDP In Accordance With (IAW) Contract Deliverable Requirements List (CDRL)-EN-04 and Data Item Description (DID)-EN-04 that will be used in development of the EC by Canada. The Classification Society must be a Transport Canada designated Recognized Organization (RO).
3. Ensure all crane components and spares are delivered, preserved, packaged and protected for shipment and storage prior to installation.
  - a) Acceptance of the crane design by Canada is dependent on the ability of the crane to meet all defined requirements of this SOW.

#### **3.2 Deliverables**

In order to satisfy the requirements of this SOW, the Contractor must provide all deliverables listed in table 3-1.

Page 15 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

Item	Qty.	Description	SOW Ref.	CDRL Ref.	DID Ref.
1	As Required by CDRL/DID	<u>Project Management</u> 1. Project Management Plan 2. Meeting Agendas 3. Meeting Minutes 4. Project Status Reports 5. Project Kick-Off Meeting	4	8.3.1.1 CDRL-PM-01 8.3.1.2 CDRL-PM-02 8.3.1.3 CDRL-PM-03 8.3.1.4 CDRL-PM-04 8.3.1.5 CDRL-PM-05	8.4.1.1 8.4.1.2 8.4.1.3 8.4.1.4 8.4.1.5
2	1 each	<u>Engineering Documents</u> 1. Initial Design Document 2. Preliminary Design Document 3. Critical Design Document 4. Technical Data Package	3.4 5	8.3.2.1 CDRL-EN-01 8.3.2.2 CDRL-EN-02 8.3.2.3 CDRL-EN-03 8.3.2.4 CDRL-EN-04	8.4.2.1 8.4.2.2 8.4.2.3 8.4.2.4
3	18 each	Electro Hydraulic Knuckle Boom Marine Cranes with all of its associated components.  Seven (7) cranes delivered to Halifax NS naval dockyard.  Five (5) cranes delivered to Esquimalt BC naval dockyard.  One (1) crane delivered to the coastal training facility in Halifax NS.  One (1) crane delivered to the coastal training facility in Esquimalt BC.  Two (2) crane delivered to a storage facility in Halifax NS.  Two (2) crane delivered to a storage facility in Esquimalt BC.	5	n/a	n/a
4	18 sets	Spare Parts. One (1) set of spare parts for each crane.	5.8.1 7.2.2	n/a	n/a
5	18 sets	Special Purpose Tools (SPT). (1) Set of SPTs for each crane for the maintenance and	5.8.1 7.2.3	n/a	n/a

Item	Qty.	Description	SOW Ref.	CDRL Ref.	DID Ref.
		overhaul of the crane and its related equipment and components.			
6	18 each	Factory Acceptance Tests (FAT)	6.2.1 6.3.1	8.3.3.1 CDRL-AT-01 8.3.3.4 CDRL-AT-04	8.4.3.1 8.4.3.4
7	1 each	Set To Work (STW) Plan and Procedures	6.2.2 6.3.2	8.3.3.2 CDRL-AT-02 8.3.3.4 CDRL-AT-04	8.4.3.2 8.4.3.4
8	1 each	Sea Acceptance Trials (SAT) Plan and Procedures	6.2.3 6.3.3	8.3.3.3 CDRL-AT-03 8.3.3.4 CDRL-AT-04	8.4.3.3 8.4.3.4
9	As Required	Certification by Class Society	6	n/a	n/a
10	1 each	Maintenance Concept	7.2.1	8.3.4.1 CDRL-LOG-02	8.4.4.2
11	1 set	Cadre Training	7.3	8.3.4.2 CDRL-LOG-01	8.4.4.1
12	1 each	ILS Documentation	7.4	8.3.4.3 CDRL-LOG-03	8.4.4.3

**Table 3-1: Project Deliverables**

### 3.3 Data Reviews and Revisions

The Contractor must submit all deliverable data in draft form for Canada's review IAW the applicable CDRL.

The Contractor must ensure that the draft document consists of a complete document compliant with the requirements of the SOW and the applicable CDRL and DID.

Unless otherwise noted, Canada's review process will take no more than ten (10) working days from receipt of the data.

The provision of comments by Canada on draft deliverables must not be construed as approval of the data deliverable.

Unless otherwise noted, the Contractor must address Canada's comments and resubmit the document showing a new revision number, within ten (10) working days of reaching agreement on the comments.

The Contractor must ensure that final documents consist of the draft document modified to include changes as authorized by Canada.

When revisions and amendments have been made to data deliverables required under this SOW, the Contractor must submit the revisions/amendments to Canada.

Page 18 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

## **4 Project Management**

### **4.1 Organization**

#### **4.1.1 Project Manager**

The Contractor must have a named Project Manager responsible to carry out the work required for the crane production program. The Contractor's Project Manager must have the authority to plan, direct, control and make decisions for the Contract.

#### **4.1.2 Contractor's Point of Contact**

The Contractor's Project Manager must be the main single point of contact with Canada.

### **4.2 Project Management Plan**

The Contractor must prepare and deliver a Project Management Plan (PMP) IAW CDRL Item CDRL-PM-01 and DID-PM-01 to identify how the Contractor intends to fulfill the project management requirements of this SOW.

#### **4.2.1 Configuration Management Strategy**

In order to ensure the consistency of the crane performance, functional and physical attributes with its requirements, design, and operational information, the Contractor must develop and implement a Configuration Management Strategy based on ANSI-649B: 2011. IAW CDRL Item CDRL-PM-01 and DID-PM-01

#### **4.2.2 Quality Assurance (QA) Plan**

The Contractor must structure the QA Plan IAW CDRL Item CDRL-PM-01 and DID-PM-01

### **4.3 Security Management**

The Contractor, FSR, and Class Surveyors must be able to obtain and maintain security clearance to access to DND facilities for the purpose of boarding naval ships and accessing DND facilities to carry out the tests, trials, and training requirements of this SOW

#### **4.3.1 Access to Canada's Facilities**

Where available, the Contractor may be provided access to Canada's facilities, on an as required escorted basis and non-interference basis, to allow the Contractor to view systems and obtain relevant data. Site visits may also be used to interview the DND TA to determine or confirm equipment functionality, integration and operational parameters.

### **4.4 Project Meeting**

#### **4.4.1 Project Kick Off Meeting**

Within one (1) month of Contract Award, the Contractor must conduct a project Kick Off Meeting, IAW CDRL item CDRL-PM-05 and DID-PM-05 at the contractor's facility, via

Page 19 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

video or teleconference or elsewhere as agreed to by Canada. The agenda of items to be reviewed at the meeting must include without being limited to;

1. The Project Management Plan IAW CDRL Item CDRL-PM-01 and DID-PM-01
2. Technical Requirements
3. Critical path activities
4. Any other contractual or programmatic issues associated with the project as mutually agreed between the TA, CA and the Contractor.

#### **4.4.2 Project Review Meetings**

The Contractor must conduct and coordinate Progress Review Meetings (PRMs) at least once each three (3) months or as mutually agreed between Canada and the Contractor.

The Contractor must hold a PRM to align with pre delivery of the first crane.

PRMs must encompass total project status as of the review date.

##### **4.4.2.1 Progress Reports**

The Contractor must monitor progress and deliver every three (3) months Project Status Reports (PSRs) IAW CDRL Item CDRL-PM-04 and DID-PM-04.

#### **4.4.3 Engineering Reviews and Audits**

The engineering reviews and audits must be prepared and conducted based on MIL-STD-1521B and must cover as a minimum:

1. Initial Design Review (IDR) IAW CDRL-EN-01 and DID-EN-01
2. Preliminary Design Review (PDR) IAW CDRL-EN-02 and DID-EN-02
3. Critical Design Review (CDR) IAW CDRL-EN-03 and DID-EN-03
4. Technical Data Package (TDP) IAW CDRL-EN-04 and DID-EN-04

The intent of the engineering reviews and audits is for the Contractor to present, track and update the documentation in order to incorporate all changes during the design, manufacturing and testing of the crane, its equipment and components, IAW with the findings of the design reviews. The final TDP will be accepted only after Canada is satisfied with the final TDP content and all changes have been addressed.

All references to Government requirements and standards in the MIL STD specifications must be understood as Canadian Government / Organisations, in place of US Government.

#### **4.4.4 Other Scheduled Meetings**

The Contractor may identify through other requirements stipulated in this SOW, and the submission of his various plans the necessity to schedule other meetings. The Contractor must identify these meetings in the Project Schedule (PS). Canada's approval of the PS will confirm Canada's intention to attend such meetings.

Page 20 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

#### **4.4.5 Meeting Arrangements**

When the Contractor is tasked to arrange and coordinate a meeting, it must be done IAW this section 3.4.

The Contractor must prepare and submit supporting documents required (in source format and not in Portable Document Format (PDF) or equivalent format) for a meeting at least five (5) working days in advance of each review or meeting.

The Contractor must prepare and submit an agenda IAW CDRL Item CDRL-PM-02 and DID-PM-02 at least five (5) working days in advance of each review or meeting except in the case of unscheduled meetings in which case the Contractor must submit an agenda 24 hours prior to the meeting.

Canada and the Contractor must mutually agree to the contents of the agenda.

#### **4.4.6 Meeting Support**

The Contractor must host and attend project reviews and meetings as required by this SOW, at the Contractor's facility, via teleconference or elsewhere as agreed to by Canada.

For all reviews and meetings hosted by the Contractor, the Contractor must:

1. Arrange the venue, including parking as appropriate;
2. Co-ordinate with Canada as appropriate;
3. Provide all administrative facilities and presentation equipment;
4. Ensure that qualified Contractor and subcontractor personnel attend the reviews or meetings;
5. Ensure and report that action items and decisions under the control of the Contractor as a result of the various meetings and reviews are implemented where applicable; and
6. Maintain and provide to DND files, records, documents of all reviews and meetings.

#### **4.4.7 Meeting Minutes**

The Contractor must record, produce, deliver and revise, as required, minutes for all meetings. The Contractor must prepare and distribute within five (5) working days an electronic copy of the minutes to Canada's attendees IAW CDRL Item CDRL-PM-03 and DID-PM-03. Meeting minutes are accepted once signed by the Contract Authority (CA). Canada will advise the Contractor of any issues within two (2) working days of receiving the minutes at which point the contractor will be responsible for revision and resubmittal within two (2) working days.

#### **4.4.8 Meeting Cancellations**

The TA and CA may cancel PRMs or any other review meetings at their discretion with a minimum of five (5) working days' notice. Rescheduling of meetings by the Contractor must be done only with the explicit agreement of Canada.

Page 21 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

#### **4.5 Problem Reporting**

The Contractor must advise Canada by fax/email within three (3) working days of the date the Contractor determines that there is a schedule alteration or contractual issue.

Upon such notification Canada will advise whether an unscheduled meeting or other action is required.

#### **4.6 Action Item List (AIL)**

The Contractor must maintain a historical, chronological and up-to-date list of action items resulting from reviews, meetings, or correspondence between the TA and the Contractor in a format acceptable to the TA for the duration of the project.

In the list the Contractor must record, as a minimum: identification number; title or description, date opened, action required, priority, organization responsible for taking action, brief statement of results in sufficient detail to clearly identify and track the action taken, date closed, and, status (open/closed).

The Contractor must ensure that, once entered, no entry is deleted.

The Contractor must include a subset of the list containing all open action items as an attachment to the monthly status reports.

The Contractor must make a copy or reproduction of the most current AIL or any portion thereof available to Canada upon request at any time. IAW CDRL-PM-02 and DID-PM-02.



## 5 New Crane Requirement

The crane on the Halifax Class will be required to complete four (4) primary functions;

1. Small boat launch and recovery at sea and alongside
2. Safely lift personnel at sea and alongside
3. Cargo handling at sea and alongside
4. Ammunitions handling at sea and alongside

The following subsections in section 5 will describe the requirements for crane on the Halifax Class vessels to meet these primary functions.

### 5.1 Crane Performance Requirements

The crane must meet the following basic performance requirements.

1. Meet the minimum requirements in Table 5-1 (note that the SWL is the minimum)
2. The crane must safely perform its primary functions IAW Class Society requirements including but not limited to the following topics:
  - a. Offshore lifting of personnel
  - b. Fitted safety systems for offshore cranes in the specified service category due to the crane's operation on a ship when not sheltered from the action of sea waves
  - c. The heel and trim requirements being in excess of the standard service category (20 degree heel/10 degree trim)
3. The Contractor must ensure that the crane with all of its equipment and components will not include parts, including spare parts that have become obsolete, or are expected to become obsolete within ten (10) years after the last crane has been delivered and accepted by Canada.
4. The crane must be capable of simultaneous four motion operation with full lifting capacity.
5. When selecting components for the crane design, preference must be given to Commercial off the Shelf (COTS) industrial marine grade components. In the absence of suitable COTS industrial marine grade components, COTS commercial marine grade components must be selected and customized to meet the requirements in this SOW.
  - i. Note: If COTS commercial marine grade components are necessary, the shock and environmental requirements of this SOW must be met.
6. The minimum hoist speed shall be in compliance with LAME requirements using a height of 7.5 m.
7. To support RCN RHIB operations the crane must be able to do the following:
  - a) Launch and recover RCN RHIB with a ships speed of 8 knots
  - b) Launch and recovery an RCN RHIB at max load of 7030kg, at SS3 IAW all relevant LAME load factors with personnel onboard and frequent usage, see Table 5-3.

Page 23 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

- c) In an Emergency, launch and recovery an RCN RHIB at SS5, in compliances with all relevant LAME load factors, lifting the minimum number of operational personnel within the range of 1 to 3 people.

8. The RCN RHIB is defined in Table 5-2

Parameter	Value	Units
Minimum Hoist Speed	>0.548	m/s
Maintain Lubrication (Heel)	20	Degrees
Maintain Lubrication (Trim)	10	Degrees
Slewing	360	Degrees
Slewing Swivel Stops	Stops at 270	Degrees
Minimum Safe Working Load(SWL) at Radius 5.3 m	7030	kg
Minimum Safe Working Load(SWL) at Radius 6.2 m	5830	kg
Slewing Speed	1	RPM
Minimum Lifting Radius	1	m

**Table 5-1: General Performance Requirements**

Parameter	Value	Units
RHIB Maximum Length	10.5	m
RHIB Maximum Height	2.0	m
RHIB Maximum Beam	3.5	m
RHIB Minimum Depth (from baseline to buoyancy tube top)	>1.25	m
RHIB Height (From baseline to lifting point)	2.8	m
RHIB Cradle Height	1.25	m
RHIB Lifting Rigging Gear Apex (from CPF deck height to crane boom)	5	m
Maximum Number of Personnel Lifted in RHIB Operations (SS3 at 5.3 mtr reach)	12	people
Maximum Weight Lifted in RHIB Operations (5.3Mtr reach)(includes boat, people and equipment)	7030	kg
Weight of one person (CF standard)	100	kg

**Table 5-2: RCN RHIB Envelope**

NOTE: RHIB will be launched and recovered with the aid of a bow line.

Sea State	Ship Speed (knots)	SWL@5.3Mtr (kg)	Load Type	Usage Frequency (LAR cycles)
Up to 2	8	7030	Personnel	5 per day (Design use)
3	6	7030	Personnel	1 per week
Up to 5	6	6200	Cargo	1 per month
Up to 5	6	5500	Emergency Personnel (2 people)	1 per year
9	12	0	No Load (Stowage only)	1 per 10 years

**Table 5-3: Crane Operation Parameters**

### 5.1.1 Crane Physical Constraints

The physical envelope that the crane is restrained to is defined by the available shipboard space envelope during stowage and clearances maintained in operation are listed in Table 5-4.

Parameter	Value	Units
Stowed Overall Height	3.2	m
Stowed Longitudinal Length	3.2	m
Stowed Transverse Width	2.1	m
Clearance for Personnel During Lift (above RHIB deck)	1.5	m
Maximum Pedestal Base Dimension	1.2	m
Maximum Crane Weight (not including remote HPU)	11,000	kg

**Table 5-4: Crane Physical Constraints**

## 5.2 Crane General Design

The following sub sections in 5.2 will describe the RCN's requirements for survivability, structural integrity and stability.

### 5.2.1 Survivability

#### 5.2.1.1 Airborne and Structural Borne Noise Requirements

The Contractor must provide a crane that meets the airborne noise requirements stipulated below with the crane operating up maximum SWL/WLL.

The unweighted octave band airborne noise levels measured one (1) metre directly above and at one (1) metre from each side of the crane situated 1.5 metres above the deck in a near free field environment must not exceed the levels specified in Table 5-5 below. Airborne noise no greater than 75 dB(A) operating at a distance of 1 meter from the unit all sides.

Sound Pressure Levels (in dB ref 20µPa @ 1 m)										
Octave Band Centre Frequency (Hz)										
	31.5	63	125	250	500	1k	2k	4k	8k	dB(A)
	87	87	85	83	81	80	80	80	80	86

**Table 5-5: Airborne Noise Requirements**

### 5.2.1.2 Structure Borne Vibration Requirements

Structure borne noise limits will be set once the operating hydraulic pressure of the equipment is known. The VdB levels will be less than listed in Table 5-6.

Frequency	3000psi	2000psi	1000psi
16	84	79	70
32	94	89	80
63	101	96	87
125	106	101	92
250	107	102	93
500	110	105	96
1k	104	99	90
2k	99	95	86
4k	94	89	80
8k	79	75	66
16k	64	59	50

**Table 5-6: Structure Borne Vibration Criteria**

The Contractor must provide a crane that meets the calculated power average vibration level requirements specified below with the crane operating at full load when installed on the mounted configuration using the same mounting system that will be fitted in the ship.

The Contractor must measure the calculated power average vibration levels directly below the crane mount, and these calculated power average vibration levels must meet the requirements specified in Table 5-7 below.

Vibration Levels (VdB ref 10-8 m/s)											
Frequency (Hz)											
8	16	31.5	63	125	250	500	1k	2k	4k	8k	16k
91	91	90	90	81	72	78	67	65	61	59	45

**Table 5-7: Structure-Borne Vibration Requirements**

### 5.2.1.3 Shock Requirements

The complete crane and power supply unit assembly must meet the Grade 1a shock requirements stipulated in DND Shock Specification (as in Table 2-1) for equipment located on the ship's weather deck, in the stowed location.

As the crane may include any appendages that are to be fitted in the ship separately such as control panels, motor starters, hydraulic power units etc, the Contractor must provide these appendages and they must also comply with the Grade 1A DND shock requirements. The Contractor must conduct shock qualification by either:

1. Qualification by extension, whereby the equipment has already been tested and qualified to DND Shock Specification or an equivalent shock specification as approved by the TA; or
2. By conducting shock qualification tests on the appendage to DND Shock Specification or an equivalent shock specification as approved by the TA.
3. If the supplier is unable to provide certification from a certified test facility then the shock test be may be conducted at Naval Engineering Test Establishment (NETE). If this option is chosen, the Contractor is responsible for all costs and setting up the testing with NETE. To contact NETE for test arrangement: NETE POC is 514-366-4310, 9401 Rue Wanklyn, Montreal PQ. Canada holds no responsibility for the conduct of shock testing.

### 5.2.1.4 Survivability Mounting and Connections

Guidance on the design, selection and installation of mountings and flexible connections used to reduce shock, vibration and noise is provided in LNR Volume 2, Part 1, Chapter 2, Para. 4.11 and D-03-003-021/SG-005.

### 5.2.2 Crane Structure Design

The crane will be located on the stbd side of the Halifax Class Ships, on Frame 27, approx. 6.63 m from ships centerline just forward of the RHIB bow. The crane structure design will meet the following parameters.

1. The crane mounting shall be of a flush deck mounted pedestal type that does not exceed the crane base dimension. See Section 5.1.1 for crane envelope dimensions.
2. The crane must be deck mounted on ships deck frame work
3. The crane structure must be an all welded modern construction and the material must be of a grade capable of supporting the loads and operating conditions required of this SOW while conforming to LAME requirements.
4. The crane must have an arrangement to secure its stowed position to prevent movement when the vessel encounters heavy seas. If a support crutch is required, it is to be fitted on deck in a location so as not to interfere with normal deck operations. The slewing gear must be totally enclosed within the crane structure to protect against sea water and icing issues;
5. The crane must be fitted with centralized grease points to reduce the need to physically access the entire crane structure, complete with stainless steel tubing and grease fittings.
6. The crane must be fitted with a fall arrest system if there are areas of the crane structure that will require access by personnel for inspections, maintenance or repairs.

Page 27 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

7. The crane's sub-components mounted in hard to access areas such as the crane pedestal must be arranged so that the components are easily accessed and visible for maintenance or adjustment.
8. The crane must be fitted with a minimum of three (3) safety Line securing points, situated on the crane boom.

### **5.2.3 Stability**

The crane design must meet the following design requirements with regards to vessel stability:

1. The crane design package shall include an estimate of the weights and centers of gravity (CG) of the proposed crane and components to be installed on the vessel.
2. Each crane must weigh no more the 11000 kg. (excluding a remote HPU assembly, if applicable).

## **5.3 Crane Electrical and Control Requirements**

The following sub sections of 5.3 describes the crane electrical and control requirements.

### **5.3.1 Electrical Requirements**

1. The crane must use, as far as practicable, the existing electrical power supplies, that is of Electrical Load 440 volts alternating current (VAC), 3 Phase, 60 Hz,
2. The crane must have the capability of supplying the vessel's Alarm and Monitoring System with the alarm signals indicated in section 5.7.
3. All Electronic Enclosures must be IP44 Enclosures or greater to prevent water ingress. The electrical equipment must meet the standard IEC 60204-32 Electrical Equipment for Machines part 32 Requirement for Hoisting machines.
4. The crane must be fitted with marine grade, waterproof LED light fixtures providing a minimum of 20,000 lumen. These lights shall be fitted so as to enable consistent operator view of the load during night operations. The lights must be fitted on swivels to ensure the lights are facing downwards at all angles of crane operation. The lights must be able to be operated from the crane operator control area and console(s).
5. The crane lights will also comply with the CFTO C-39-003-001/AG-001 Helicopter/Ship Interface Design Guidance and Clearance Criteria Manual. The lights will meet all operational, night vision and adjustable dimming light requirements listed in this standard.
6. There must be no delay upon crane power/ start up.

#### **5.3.1.1 Electromagnetic Interference, Radiated and Conducted Emission**

Crane Electronic Equipment must pass IEC 61000-4, CISPR 16-2 by IACS Electrical Installations: Test Specification for Type Approval (Test #13-20) to meet the Electromagnetic requirements.

Page 28 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

### 5.3.2 Crane Control System Requirements

The crane control system must meet the following design requirements:

1. The crane control system must be comprised of current production electronic components.
2. All control system components must be capable of being exchanged with minimal adjustments following a “plug and play” philosophy
3. The crane must be capable of being operated from the local operating console, or by a wired remote control.
4. The local console and remote control unit must be fitted with a method of taking control so only one controller has control of the crane system at a time.
5. The system must be designed for use in a marine environment with the environmental requirements noted in Table 5-8 and approved by the Classification Society
6. The software operating system shall be based on current technology, open industry standard;
7. The control system must provide a data logging system, with a capacity to meet the data storage requirement stated below:
  - a) Long-term data storage of, as a minimum, three (3) months of data and include all alarms, warnings, errors and diagnostics results
  - b) Capability to allow the operators to access the time stamped historical data
  - c) Ability to transfer the logged data by the ship’s crew to allow for offline fault diagnosis and failure tracking.
8. A signal interface list must be supplied, including the following data as a minimum but not limited to:
  - a) Equipment name to which a signal is connected;
  - b) Signal name or ID;
  - c) Connector name or ID and PIN information;
  - d) Electrical signal characteristics, e.g. voltage, current, frequency, digital input/output, and analog input/output and coefficient;
  - e) Field device number; and
  - f) Sensor or field device data.
9. The control system must be capable of performing diagnostics to detect, identify, locate and indicate to the operator/maintainer any fault that has occurred in the control system, including control hardware and sensors. Diagnostic messages/indications must be graphically presented on the user interface display screen in clear language with suitable colour coding for rapid identification of faulty components.
10. The control system Human-Machine Interface (HMI) must have at a minimum but not limited to the following design elements:
  - a) Monitor with automatic contrast adjustment (sunlight visible), with touch screen or function buttons to allow the operator to quickly change display pages;
  - b) Designation of console in control, and transfer of console in control;
  - c) Self- diagnostic capability including maintenance software;

Page 29 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

- d) Graphical display pages grouped according to function which includes but is not limited to:
  - i. Operational overview page – loads, trim, list, wind, status of safety systems, etc.;
  - ii. System status page(s) – pressures, temperature readings;
  - iii. Maintenance information page (hour meters, etc.);
  - iv. Configuration of set points, alarms and, if fitted, anti-collision settings;
  - v. Alarms, faults and warning listing page.

11. The wired controller must meet the following requirements:

- a) The weight of the wired control must be less than 2 kg if it is free held otherwise it must include ergonomic supporting straps to reduce fatigue on operator.
- b) The wired control system must allow the operator to operate within a 5 m circumference of the crane structure and visibly view and monitor the load at all times during an operation.
- c) The wired control must be waterproof.
- d) Drop protection straps

12. The Control system must include the ability to program control stops to protect sensitive equipment onboard the vessel. The control stops will be tested during the STW see CDRL-AT-01 and DID-AT-01.

#### 5.4 Crane Hydraulic Requirements

The crane design must meet the following design requirements:

1. The hydraulic oil type must be Standard Naval Grade General Hydraulic Oil type/Grade 3GP-36.
2. The crane must be designed with electro-hydraulic power packs. The power pack must have the following minimum performance characteristics:
  - a) Full lifting capacity (SWL) must be maintained.
  - b) Full SWL must be supported without pressure loss or load drop at 25 percent Hydraulic system overpressure due to load surge.
  - c) The rated speeds listed in this SOW must be met.
  - d) The speeds with the power pack operating must meet the following minimum performance requirements for the motions listed in section 5.1
    - i. At least 90% of the rated speed for each individual motion
    - ii. At least 80% of the rated speeds for any two simultaneous motions
    - iii. At least 70% of the rated speeds for any three simultaneous motions
    - iv. At least 50% of the rated speeds for four simultaneous motions
    - v. And meet RCN RHIB operation requirements in section 5.1
3. The power packs must conform to the Design Specifications required of Hydraulic Power Oil Systems in the Marine Machinery Regulations, current edition.

Page 30 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018



4. The power pack must be supplied complete, with all components required to provide a fully functional crane system, including motors, pumps, filters, strainers, relief valves, control valves, reservoir, oil coolers, piping and hoses.
5. The power packs must be equipped with local indications and alarms for the following parameters as a minimum:
  - a) Crane main motor run indication
  - b) Hydraulic tank low level alarm
  - c) Hydraulic tank low, low level crane shut down switch
  - d) Oil temperature indication for tank and system oil return line, high temperature alarm
  - e) System main oil pressure indication, low pressure alarm
  - f) Hour meters for each power pack

## **5.5 Crane Mechanical Requirements**

The crane must have a 360° rotational capability. Slewing Swivel Stops at 270° must be provided for the crane.

### **5.5.1 Boom Travel and Hoisting Requirements**

The crane's traveling and hoisting design must meet the following requirements:

1. The boom cylinders must be designed for marine use, and all pins and bushings must be of corrosion resistant material. With the crane in the stowed position, a minimal area of the hydraulic rams must be exposed to the elements
2. All winches must consist of a grooved rope drum with integrated planetary gear, hydraulic motor and fail safe brakes IAW C-03-011-004/MS-001
3. The winch drum capacity must be such that at least three dead turns are guaranteed under any designed operating conditions. The main hook must have a travel of at least thirty (30) meters;
4. All wire ropes must be galvanized non-rotating, right regular lay, IWRC; and
5. All sheaves must be guarded to prevent the wire rope from slipping off at maximum lead angles and all operational conditions.

### **5.5.2 Auxiliary/Ancillary System Requirements**

The Contractor must provide a crane that is capable of operating with the following auxiliary/ancillary system requirements:

1. The cooling system should be cooled by ambient air and/or sea water cooling system
2. Interface with the current electrical supply; see section 5.3.1
3. Interface with the alarm monitoring and safety systems; see section 5.3.1
4. Use RCN standard hydraulic fluid; see section 5.4

Page 31 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

### 5.5.3 Crane and Load Interface system

The crane must include one interchangeable/removable Cranstan Eagle hook that can support the maximum load.

### 5.6 Environmental

The crane must be able to operate in the following environmental conditions.

Item	Environmental Condition	Requirements	Standard
1	Temperature	All Components of the crane will be capable of withstanding -40°C to +45°C at 100% humidity. (Stowed and operational)	Info, to be used to determine Class Requirements
2	Sea State – Operations	All components operational at SS3	Info in accordance with Class Society  (personnel lifting)  STANAG 4194
3	Sea State – Cargo and Emergency Rescue Operations	All components operational at SS5	Info, to be used to determine Class Society Requirements  personnel lifting for cargo operations)  STANAG 4194
4	Sea State – Survivability (Stowed)	All components capable of withstanding Beaufort SS9.	Info, to be used to determine Class Requirements  STANAG 4194
5	Ice	The crane and all of its components and equipment exposed to the elements must withstand ice loading of 37 kg/m <sup>2</sup> and operate with ice loading of 22 kg/m <sup>2</sup> and be protected from ice buildup and snow and ice loads.	ISO 12944  Info, to be used to determine Class requirements
6	Salt	The cranes electric and electronic equipment must be able to function in a salt laden atmospheric condition. This is determined by the equipment being able to pass IEC 60068-2-52 Test Kb	IACS Electrical Installations: Test Specification for Type Approval (Test #12)
7	Water ingress	All Electronic Enclosures must be IP44 Enclosures or greater.  IEC 60204-32 Electrical Equipment for	IEC 60204-32 Electrical Equipment for Machines part 32 Requirement for

		<p>Machines part 32 Requirement for Hoisting machines</p> <p>Crane Hydraulics must also be protected from water ingress IAW C-03-011-004/MS-001</p>	<p>Hoisting machines</p> <p>C-03-011-004/MS-001</p>
8	Roll	<p>Crane must be operational with</p> <p>Roll +/- 20° each side.</p>	
9	Pitch	<p>Crane must be operational with</p> <p>Pitch +/- 10°</p>	
10	Trim	<p>Crane must be operational with</p> <p>Trim forward or aft 10°.</p>	
11	Heel	<p>Crane must be operational with</p> <p>Heel +/- 20° each side.</p>	
12	Vibrations	Crane must meet environmentally induced vibrations standards.	MIL-STD-167-1A.
13	Accelerations - Longitudinal	<p>A frame 27 6.63m of CL the accelerations in Longitudinal are 0.21 m/s<sup>2</sup> at SS3</p> <p>A frame 27 6.63m of CL the accelerations in Longitudinal are 0.75 m/s<sup>2</sup> at SS5</p> <p>A frame 27 6.63m of CL the accelerations in Longitudinal are 1.80 m/s<sup>2</sup> at SS9<sup>2</sup></p> <p>To be used in reference with the creation of TBP</p> <p>The accelerations shown are the results of the worst case heading which in all cases is beam seas.</p>	STANAG 4194
14	Accelerations - Transverse	<p>A frame 27 6.63m of CL the accelerations in Transverse are 1.22 m/s<sup>2</sup> at SS3</p> <p>A frame 27 6.63m of CL the accelerations in Transverse are 5.14 m/s<sup>2</sup> at SS5</p> <p>A frame 27 6.63m of CL the accelerations in Transverse are 3.48 m/s<sup>2</sup> at SS9<sup>2</sup></p> <p>To be used in reference with the creation of TBP</p> <p>The accelerations shown are the results of</p>	STANAG 4194

		the worst case heading which in all cases is beam seas.	
15	Accelerations - Vertical	<p>A frame 27 6.63m of CL the accelerations in Vertical are 2.16 m/s<sup>2</sup> at SS3</p> <p>A frame 27 6.63m of CL the accelerations in Vertical are 6.63 m/s<sup>2</sup> at SS5</p> <p>A frame 27 6.63m of CL the accelerations in Vertical are 7.54 m/s<sup>2</sup> at SS9<sup>2</sup></p> <p>To be used in reference with the creation of TBP</p> <p>The accelerations shown are the results of the worst case heading which in all cases is beam seas.</p>	STANAG 4194
16 <sup>2</sup>	Wind Speed	The SS9 wind speed specific to the HLX class is not less than 75 kn <sup>2</sup> .	STANAG 4194

**Table 5-8: Environmental Requirements**

#### 5.6.1.1 Equipment Protection

All Equipment protection from the environment should be IAW DND Requirements. The DND requirements should be used to determine the class requirements and IAW ISO 12944. The DND Requirements are:

1. All parts/surfaces exposed to the elements are required to be painted and must first be cleaned IAW SSPC-SP-1, then grit blasted IAW SSPC-SP-10 to a surface profile of 65-85 microns.
2. Apply one coat of AkzoNobel International Intershield 300HS at 125-150 microns, aluminum colour.
3. Apply one stripe coat of AkzoNobel International Intershield 300HS to all corners, seams and welds, bronze colour.
4. Apply one coat of AkzoNobel International Intershield 300HS at 125-150 microns, bronze colour.
5. Apply one coat of AkzoNobel International Interfine 979SG at 125 microns. Colour shall be 26480 as per Federal Standard 595C
6. Non accessible and enclosed internal boom surfaces/ areas shall be cleaned, (blasted, acid bath, etc.) and coated with a corrosion preventive product.
7. All preparations and each coat of paint shall be checked and recorded by a NACE CIP Level 2 Certified Inspector.
8. A removable custom fitted weather (salt water spray, rain, wind, ice pellets, snow) protection cover shall be provided with each crane.

---

<sup>2</sup> Please refer to Line 16 in Table 5-8 when considering SS9

## 5.7 Crane Safety Requirements

The crane must include but is not limited to the following safety features:

1. Load Moment Indication system(s) IAW class rules:
  - a) Automatic Overload Protection Systems and
  - b) Manual Overload Protection Systems
2. Constant Tension system for all winches
3. Emergency load lowering system and manual operation in the event of total power failure
4. Anti-two (2) block control on all winches
5. Fail safe brakes for the winches and slewing motors
6. Load holding valves for the following items to prevent crane movement in the case of hose rupture or other failure causing a pressure drop in the system
  - a) Boom cylinders
  - b) Winch motors and/or
  - c) Slewing motors
7. Slew and boom travel/position sensors in order to set maximum turn limits if required by the final mounting location and height of the crane in relation to Canada defined obstructions on the ship.
8. Outputs for the ship's alarm and monitoring of the following parameters:
  - a) Crane main motor run indication;
  - b) Hydraulic tank low and low level alarms;
  - c) Oil temperature indication for tank and system oil return line; and
  - d) System main oil pressure and pilot pressure indications.

### 5.7.1 Constant Tensioning

The constant tensioning device will encompass all motions and maintain line tension IAW LAME regulations.

## 5.8 Spare Parts and Maintenance Requirements

### 5.8.1 Spare Parts

Spare part component and tools types and quantities for the crane must be proposed by the Contractor and approved by Technical Authority (TA). The quantities must be able to meet the first two (2) years of in service first line preventative maintenance and additional quantities of spares to meet the first 5 years of manufacturer recommended second line (repair facility) corrective maintenance activities. Spares quantities must be for all delivered cranes and as a minimum must include, without being limited to, the following components for each delivered crane:

1. High pressure filter elements;
2. Return filter elements;

Page 35 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

3. High Pressure gauge(s) with hose(s) and fittings;
4. Set(s) of hydraulic cylinder seals;
5. Set(s) of seals for/and hydraulic pumps and motors;
6. Spare electronic components that would be critical to the operation of the crane, including:
  - a) 2 x LED bulbs of each type used in the crane;
  - b) 1 x programmable controller and its programming software, license, special connecting cable to a lap top, spare for PLC (if applicable);
  - c) 1 x complete set of thermometers, manometers, probes and sensors; and
  - d) 1 x Complete set of solenoid valves, limit switches
7. All other components not listed above that are listed in the list of critical spare parts identified at the CDR and must include:
  - a) 1 x Electric motor bearings for each motor;
  - b) 1 x Marine grade, waterproof LED light fixture; and
  - c) 1 x Spare Hoisting Cables for Main and Auxiliary hoist.
8. All specialty tools that may be required for maintenance of the crane.

The Contractor must ensure that packaging of all spare parts will provide adequate protection for a minimum of two (2) years, consistent with good economy, against damage, deterioration and loss of identification during storage, handling and shipment.

### **5.8.2 Maintenance Requirements**

The Contractor must provide a crane that has proven marine service. Each delivered crane must attain at least 2000 operating hours with satisfactory service. Satisfactory service is defined as requiring only scheduled preventive maintenance or minor corrective maintenance (described as 1st level maintenance below).

1. 1st level maintenance is maintenance that is normally performed onboard ship by shipboard naval technicians required to ensure continued reliable operation, such as: operating checks and trouble-shooting, fluid level and filter checks and changes; greasing; oil testing; repairing fluid leaks; checking fasteners, flexible hoses and connections for tightness; motor insulation resistance measurements; etc. It also includes minor corrective maintenance such as: filter changes, fluid changes; pump and motor changes; testing and replacement of circuit cards, sensors and switches etc.;
2. The Contractor must provide a marine crane that has a minimum time between major overhaul (approx. 48 month intervals) of at least 2,000 hours.

### **5.9 Crane Storage**

The Contractor must provide suitable and secured pre-delivery crane storage at the Contractors or other designated facility for up to six (6) cranes at a time for any one year period. This storage capability shall be made available for up to four (4) years. The Contractor will be responsible for the care, custody and preservation of the stored cranes and must ensure that the cranes remain fully operational and warranted for installation and use.

Page 36 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

## **6 Acceptance Testing**

### **6.1 Coordination with the Inspections and Tests Plan**

The Contractor must identify to DND, what FSR and Class Surveyor(s) are needed to inspect, assess, attend, witness, ascertain, approve and certify contracted work, so appropriate scheduling and staffing of FATs, STWs, and SATs can be addressed and managed. The Contractor must identify to DND any logistic support that the Contractor FSR and Class Surveyor(s) may need for the FATs, STWs, and SATs to be completed and managed.

Accordingly, the Contractor Representatives (Project Manager and/or FSR) with the Class Surveyor Representative(s) will have to attend the DND /contractor meetings where the crane installation packages, FAT/STW/SAT Plans and Procedures, will be verified, accepted and confirmed.

The costs related to the Contractor's representative(s) required to inspect, assess, attend, witness, ascertain, and certify all aspects of the crane installation work that will be accomplished during set to work, tests and trials will be on an 'as and when required' basis IAW Contract Article 1.5 Additional / Unscheduled Work including Design Change.

During the installation, Set to Work (STW), testing, commissioning and trials, the Contractor must provide, on an as required basis, the services of a Field Service Representative (FSR).

During the first five years of service, the Contractor will provide FSR repair and or engineering services on an 'as and when required' basis IAW Contract Article 1.5 Additional / Unscheduled Work including Design Change. These services will not exceed 40 hrs per crane over the five year period.

### **6.2 Crane and Vessel's Installation Package Acceptance Testing**

The purpose of the various acceptance tests is to demonstrate that the performance and functional requirements of the crane at each integration and installation step have been satisfactorily met.

#### **6.2.1 Crane Factory Acceptance Test (FAT)**

At the Contractor's facility, the Contractor must conduct a FAT on each crane and all of its associated equipment and systems. The FAT must be conducted IAW the approved FAT Plan and Procedures. The FAT must be witnessed and accepted by the TA or its delegated representative. LR surveyor attendance to FAT is contingent upon LR certification requirements.

#### **6.2.2 Crane STW**

In preparation for the SAT, the crane must be STW on the vessel. The Contractor must provide the TA with a STW procedures that will be IAW the related STW plans in section 3.2. These procedures must be in line with the methodologies applicable to the various crane systems and be submitted for review and comment to the TA prior to beginning the work.

Page 37 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

### **6.2.3 Crane Sea Acceptance Trials (SAT)**

Following the cranes STW on the vessel, the Contractor will precede to sea, if deemed necessary, to witness the SAT, crane, and crane equipment performance under real operating conditions at sea. The Sea Acceptance Trials will be conducted by the TA or delegated representative. The trial will be conducted under advice of a contractor representative, witnessed and approved by the TA or delegated representative and attended by the class surveyor, as required.

## **6.3 Test Management**

### **6.3.1 Crane Factory Acceptance Test (FAT) Plan and Procedures**

In accordance with the section 3.2, the Contractor must produce and deliver a FAT Plan and Procedures that provides an overall outline of the entire spectrum of test activities of the Crane to be carried out at the factory. The FAT Plan and Procedures must contain all conditions, precautions, adjustments, expected test results, tolerances, and test equipment required to verify the correct operation of the Crane with all of its associated equipment and systems, and must be witnessed and approved by the TA or delegated representative and attended by the class surveyor as required. The FAT Plan delivery must be IAW CDRL item CDRL-AT-01 and DID-AT-01.

### **6.3.2 Crane STW Plan and Procedures**

In accordance with the section 3.2, the Contractor must produce and deliver a Crane STW Plan and Procedures for the crane STW on the vessel. The Crane STW Plan and Procedures provide an overall outline of the entire spectrum of STW activities of the crane onboard. The Crane STW Plan and Procedures must contain all conditions, precautions, adjustments, starting procedures, tolerances, and test equipment required in preparation of the crane including all of its equipment, systems and ship board integration, in order to perform the SAT. The Crane STW Plan and Procedures delivery must be IAW CDRL item CDRL-AT-02 and DID-AT-02

### **6.3.3 Crane Sea Acceptance Trials (SAT) Plan and Procedures**

In accordance with the section 3.2, the Contractor must produce and deliver a SAT Plan and Procedures that provides an overall outline of the entire spectrum of test activities of the crane SAT activities. The SAT Plan and Procedures must contain all conditions, precautions, adjustments, expected test results, tolerances, and test equipment required to verify the correct operation of the crane, its associated equipment and systems and all crane related vessel's connections and supplies, inputs and outputs under real operating conditions at sea. The SAT may be attended by the Contractor if deemed necessary, and must be witnessed and approved by the TA or delegated representative and attended by the class surveyor, as required. The SAT Plan and procedures delivery must be IAW CDRL item CDRL-AT-03 and DID-AT-03.

### **6.3.4 Crane Factory Acceptance Test (FAT) Reports**

The Contractor must prepare the crane's FAT reports and submit them IAW CDRL Item CDRL-AT-04 and DID-AT-04.

Page 38 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018



### **6.3.5 Crane STW Reports**

The Contractor must prepare the crane's STW reports and submit them IAW CDRL Item CDRL-AT-04 and DID-AT-04.

### **6.3.6 Crane Sea Acceptance Trials (SAT) Reports**

The Contractor must prepare the crane's SAT reports and submit them IAW CDRL Item CDRL-AT-04 and DID-AT-04.

## **6.4 Certification**

### **6.4.1 Certifications by Classification Society**

The Contractor must obtain from a certified IACS Class Society all appropriate and applicable certifications to build, operate, and maintain in class. The certifications will include but are not limited to:

- Crane manufacturing
- Crane and associated equipment
- Crane and associated equipment STW, test and trials operations and commissioning.

The contractor must identify all required Class Society certifications and approvals to comply with this SOW; and identified at the IDR, PDR and CDR.

### **6.4.2 Work Acceptance**

Upon the successful review of the deliverables requested by this SOW the Work Acceptance will take place in accordance with the contract Terms and Conditions.

### **6.4.3 New Crane Commissioning**

Upon the work acceptance Canada will declare the new crane commissioned.

## **7 Integrated Logistics Support (ILS)**

### **7.1 General**

The following items must be provided by The Contractor to facilitate DND's development and provision of an ILS program.

### **7.2 Maintenance of the Crane**

#### **7.2.1 Maintenance Concept**

The Contractor must prepare and deliver, for approval by the TA, a recommended Maintenance Concept IAW CDRL item CDRL-LOG-02 and DID-LOG-02 current industrial best practices.

#### **7.2.2 Spare Parts**

The Contractor must propose to the Technical Authority (TA) for its approval, a list of Spares Component types and quantities set for the crane IAW 5.8.1. The quantities must be able to meet the first five (5) years of maintenance.

#### **7.2.3 Special Purpose Tools (SPT)**

The Contractor must design and develop the SPT, if they are not readily available, for the maintenance of the crane and its related equipment and components to be carried out by the DND personnel, this IAW 5.8.

### **7.3 Cadre Training**

The Contractor must deliver Crane Training IAW this section, section 3.2, CDRL item CDRL-LOG-01 and DID-LOG-01 and the current industrial best practice.

#### **7.3.1 Number of Cadre Training Sessions and Students**

The Contractor must provide fourteen (14) cadre training sessions on the Crane IAW CDRL-LOG-01 and DID-LOG-01.

#### **7.3.2 Training Material and Content**

The Cadre Training Package (CTP) must meet both the system operation and system maintenance requirements to a level suitable for operators, on board maintenance performed by the ship's crew, and shore based maintenance that may require the presence of FSR's. The Contractor must prepare and produce a Course Training Plan (CTP) and Course Training materials for each course IAW best current industrial practices. The CTP must be delivered IAW CDRL item CDRL-LOG-01 and DID-LOG-01. The training material and content must be reviewed and approved by TA.

The Contractor shall provide the crane operator and maintainer training package, in MS Office format, to allow subsequent training of the equipment at DND facility by DND instructors. Four (4) copies of the training package shall be delivered to the TA.

Page 40 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

### **7.3.3 Training Location and Training Equipment**

The Contractor must deliver a Cadre training session on completion of each shipboard installation on board the ship. The training will be held at Canadian Forces Fleet School Esquimalt BC and Canadian Forces Fleet School Halifax NS nor on board ship as directed by the technical authority.

The Contractor must use the crane and the Special Purpose Tools as a training system for the duration of training session.

### **7.3.4 Language**

All Contractor supplied training and the training material must be provided in English.

## **7.4 Documentation**

### **7.4.1 Operations/Maintenance Manual**

The Contractor must provide operations/maintenance manual IAW CDRL-LOG-03and DID-LOG-03.

### **7.4.2 Provisioning Parts Breakdown (PPB)**

The Contractor must provide provisioning parts breakdown IAW CDRL-LOG-03and DID-LOG-03.

### **7.4.3 Recommended Spare Parts list (RSPL)**

The contractor must provide recommended spare parts IAW CDRL-LOG-03and DID-LOG-03.

### **7.4.4 Technical Drawing Package**

The Contractor must provide technical drawing packages IAW CDRL-EN-04 and DID-EN-04 and included in CDRL-LOG-03and DID-LOG-03.

### **7.4.5 Training Package**

The Contractor must provide training packages IAW CDRL-LOG-01and DID-LOG-01

### **7.4.6 Electronic Labelling**

All electronic media must be clearly labelled with the DND project number, file names and drawing numbers. If a complete listing exceeds the label size, a “readme.txt” file in ASCII format must be provided with each disk. A printed copy of the Readme file must accompany each disk.

Page 41 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

## **7.5 Technical Documentation**

### **7.5.1 Engineering Data Access**

The Contractor must provide access to all engineering data during the contract.

### **7.5.2 Original Equipment Manufacturer (OEM)**

The Contractor must make maximum use of existing OEM technical publications and provide OEM parts identification data.

## **7.6 Packaging, Handling, Storage & Storage Ability**

### **7.6.1 General**

The Contractor must conduct Packaging, Handling, Storage and Transportability IAW the requirements of the contract

### **7.6.2 Packaging Methods and Levels**

The Contractor must ensure that packaging of provisioned items will provide adequate protection for a minimum of five (5) years, consistent with good economy, against damage, deterioration and loss of identification during storage, handling and shipment.

### **7.6.3 Marking of Packages**

The Contractor must mark all packages, shipping containers and consolidation containers IAW current shipping best practices, as applicable.

### **7.6.4 Shelf Life Items**

The Contractor must mark the individual package for each shelf life item IAW current industrial best practices. Information on packaging shall include as a minimum, but not be limited to:

1. Date of manufacture;
2. Shelf life expiry date; and
3. Storage environment restrictions (for example no freezing, no sunlight).

## 8 Contract Deliverable Requirements List (CDRL) and Data Item Description (DID)

### 8.1 General

#### 8.1.1 Document Changes/Updates

All the approved documents must be prepared and updated as required by the CDRL. All changes to updated versions of documents must be identified as follows:

1. On a change page indicating page numbers, paragraph numbers, date of change and reason for change;
2. Within the hard copy, by use of change bars in the side margins of the printed document; and
3. Within the soft copy, using a method appropriate to the authoring tools that clearly differentiates old content from new or revised content.

Proposed amendments and the list of effective pages must be forwarded to the TA for approval as described in the CDRL.

#### 8.1.2 Deliverable Format and Number of Copies:

The number of documentation copies required for each CDRL is defined within each CDRL.

All soft copies of documentation must be in the original editable source file format, e.g. Microsoft Word.

### 8.2 CDRL and DID Summaries

#### 8.2.1 Project Management Summary

CDRL	DID	Deliverable	Review Level	Due	Section in SOW
CDRL-PM-01	DID-PM-01	Project Management Plan	A	CA+20wd	4.2
CDRL-PM-02	DID-PM-02	Meeting Agendas	A	Meeting Date – 5wd	4.4.5 and 4.4.6
CDRL-PM-03	DID-PM-03	Meeting Minutes	A	Meeting Date + 5wd	4.4.7
CDRL-PM-04	DID-PM-04	Project Status Reports	R	CA + 30 wd, PRM -5wd	4.4.2.1
CDRL-PM-05	DID-PM-05	Project Kick Off Meetings	R	CA +20 wd	4.4.1

**Table 8-1: Project Management Summary**

### 8.2.2 Engineering Summary

CDRL	DID	Deliverable	Review Level	Due	Section in SOW
CDRL-EN-01	DID-EN-01	Initial Design Documents	R	CA+ 30 wd	3.2
CDRL-EN-02	DID-EN-02	Preliminary Design Documents	R	CA+ 60 wd	3.2
CDRL-EN-03	DID-EN-03	Critical Design Documents	A	CA + 90 wd	3.2
CDRL-EN-04	DID-EN-04	TDP	A	CA + 120 wd	3.2

**Table 8-2: Engineering Summary**

### 8.2.3 Acceptance Testing Summary

CDRL	DID	Deliverable	Review Level	Due	Section in SOW
CDRL-AT-01	DID-AT-01	Crane FAT Plan and Procedures	A	CA + 120 wd	3.2 and 6.3.1
CDRL-AT-02	DID-AT-02	Vessel's STW Plan and Procedures	R	CA + 120 wd	3.2 and 6.3.3
CDRL-AT-03	DID-AT-03	Crane SAT Plan and Procedures	R	CA + 120 wd	6.3.2
CDRL-AT-04	DID-AT-04	Various STW and Acceptance Test Reports	R	Acceptance Test + 10 wd	3.2 and 6.3.1 to 6.3.6.

**Table 8-3: Acceptance Testing Summary**

### 8.2.4 Integrated Logistics Support Summary

CDRL	DID	Deliverable	Review Level	Due	Section in SOW
CDRL-LOG-01	DID-LOG-01	Cadre Training Package	A	CA + 180 wd	3.2 and 7.3
CDRL-LOG-02	DID-LOG-02	Maintenance Concept	A	PDR - 20 wd	7.2
CDRL-LOG-03	DID-LOG-03	ILS Documentation	A	First STW-10wd	7

**Table 8-4: Integrated Logistics Support Summary**

### 8.3 CRDLs

#### 8.3.1 Project Management CDRL Details

##### 8.3.1.1 CDRL-PM-01

1	Sequence Number	PM-01
2	Title or Description of Data	Project Management Plan
3	Data Item Description of Data	DID-PM-01
4	Reference	SOW 4.2
5	First Submission	CA+ 20 wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	10 wd
9	Subsequent Submission	As required, if changes needed. Deliver soft copy of the change pages only
10	Remarks	Deliver via email

**Table 8-5: CDRL – PM-01**

##### 8.3.1.2 CDRL-PM-02

1	Sequence Number	PM-02
2	Title or Description of Data	Meeting Agendas
3	Data Item Description of Data	DID-PM-02
4	Reference	SOW 4.4.5 and 4.4.6
5	First Submission	Meeting Date -5 days
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	10 wd
9	Subsequent Submission	N/A
10	Remarks	Deliver via email

**Table 8-6: CDRL – PM-02**

##### 8.3.1.3 CDRL-PM-03

1	Sequence Number	PM-03
2	Title or Description of Data	Meeting Minutes
3	Data Item Description of Data	DID-PM-03
4	Reference	SOW 4.4.7
5	First Submission	Meeting date + 5 wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	10 wd
9	Subsequent Submission	N/A
10	Remarks	Deliver via email

**Table 8-7: CDRL – PM-03**

#### 8.3.1.4 CDRL-PM-04

1	Sequence Number	PM-04
2	Title or Description of Data	Project Status Reports
3	Data Item Description of Data	DID-PM-04
4	Reference	SOW 4.4.2.1
5	First Submission	CA+ 3 months
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	No
8	Approval Lead Times	N/A
9	Subsequent Submission	Every + 3months
10	Remarks	Deliver via email

**Table 8-8: CDRL – PM-04**

#### 8.3.1.5 CDRL-PM-05

1	Sequence Number	PM-05
2	Title or Description of Data	Project Kick Off Meeting
3	Data Item Description of Data	DID-PM-05
4	Reference	SOW 4.4.1
5	First Submission	CA + 20 wd
6	Number of Copies	N/A
7	TA Approval Requirements	No
8	Approval Lead Times	N/A
9	Subsequent Submission	N/A
10	Remarks	Deliver via email

**Table 8-9: CDRL – PM-05**

### 8.3.2 Engineering CDRL Details

#### 8.3.2.1 CDRL-EN-01

1	Sequence Number	EN-01
2	Title or Description of Data	Initial Design Documents
3	Data Item Description of Data	DID-EN-01
4	Reference	SOW 3.2
5	First Submission	CA+30wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	No
8	Approval Lead Times	N/A
9	Subsequent Submission	EN-02
10	Remarks	Deliver via email

**Table 8-10: CDRL – EN-01**



### 8.3.2.2 CDRL-EN-02

1	Sequence Number	EN-02
2	Title or Description of Data	Preliminary Design Documents
3	Data Item Description of Data	DID-EN-02
4	Reference	SOW 3.2
5	First Submission	CA + 60 wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	No
8	Approval Lead Times	N/A
9	Subsequent Submission	EN-03
10	Remarks	Deliver via email

**Table 8-11: CDRL – EN-02**

### 8.3.2.3 CDRL-EN-03

1	Sequence Number	EN-03
2	Title or Description of Data	Critical Design Documents
3	Data Item Description of Data	DID-EN-03
4	Reference	SOW 3.2
5	First Submission	CA + 90 wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	No
8	Approval Lead Times	N/A
9	Subsequent Submission	EN-04
10	Remarks	Deliver via email or FTP

**Table 8-12: CDRL – EN-03**

### 8.3.2.4 CDRL-EN-04

1	Sequence Number	EN-04
2	Title or Description of Data	TDP
3	Data Item Description of Data	DID-EN-04
4	Reference	SOW 3.2
5	First Submission	CA + 120 wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	20 wd
9	Subsequent Submission	N/A
10	Remarks	Deliver via email or FTP

**Table 8-13: CDRL – EN-04**

### 8.3.3 Acceptance Testing CDRL Details

#### 8.3.3.1 CDRL-AT-01

1	Sequence Number	AT-01
2	Title or Description of Data	Crane FAT Plan and Procedures
3	Data Item Description of Data	DID-AT-01
4	Reference	SOW 3.2 and 6.3.1
5	First Submission	EN-04
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	20 wd
9	Subsequent Submission	N/A
10	Remarks	Deliver via email or FTP

**Table 8-144: CDRL – AT-01**

#### 8.3.3.2 CDRL-AT-02

1	Sequence Number	AT-02
2	Title or Description of Data	Crane STW Plan and Procedures
3	Data Item Description of Data	DID-AT-02
4	Reference	SOW 3.2 and 6.3.2
5	First Submission	EN-04
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	20 wd
9	Subsequent Submission	N/A
10	Remarks	Deliver via email or FTP

**Table 8-155: CDRL – AT-02**

#### 8.3.3.3 CDRL-AT-03

1	Sequence Number	AT-03
2	Title or Description of Data	Crane SAT Plan and Procedures
3	Data Item Description of Data	DID-AT-03
4	Reference	SOW 3.2 and 6.3.3
5	First Submission	EN-04
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	No
8	Approval Lead Times	N/A
9	Subsequent Submission	N/A
10	Remarks	Deliver via email or FTP

**Table 8-166: CDRL – AT-03**

#### 8.3.3.4 CDRL-AT-04

1	Sequence Number	AT-04
2	Title or Description of Data	Acceptance Test Reports
3	Data Item Description of Data	DID-AT-04
4	Reference	SOW 3.2 and 6.3.1 to 6.3.6.
5	First Submission	Acceptance Test +10 wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	20wd
9	Subsequent Submission	N/A
10	Remarks	Deliver via email or FTP

**Table 8-177: CDRL – AT-04**

### 8.3.4 Integrated Logistics Support CDRL Details

#### 8.3.4.1 CDRL-LOG-01

1	Sequence Number	LOG-01
2	Title or Description of Data	Cadre Training and Training Package
3	Data Item Description of Data	DID-LOG-01
4	Reference	SOW 3.2 and 7.3
5	First Submission	Vessel STW or fleet school STW + 20 wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	10wd
9	Subsequent Submission	N/A
10	Remarks	Deliver via email

**Table 8-188: CDRL – LOG-01**

#### 8.3.4.2 CDRL-LOG-02

1	Sequence Number	LOG-02
2	Title or Description of Data	Maintenance Concept
3	Data Item Description of Data	DID-LOG-02
4	Reference	SOW 7.2
5	First Submission	PDR – 20 wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	20wd
9	Subsequent Submission	N/A
10	Remarks	Deliver via email

**Table 8-19: CDRL – LOG-02**

### 8.3.4.3 CDRL-LOG-03

1	Sequence Number	LOG-03
2	Title or Description of Data	ILS Documentation
3	Data Item Description of Data	DID-LOG-03
4	Reference	SOW 7.2
5	First Submission	First STW-10wd
6	Number of Copies	1 soft copy in source format
7	TA Approval Requirements	Yes
8	Approval Lead Times	20wd
9	Subsequent Submission	N/A
10	Remarks	Deliver via email

**Table 8-20: CDRL – LOG-03**

**8.4 Data Item Descriptions**  
**8.4.1 Project Management DIDs**  
**8.4.1.1 DID-PM-01**

1. TITLE		2. IDENTIFICATION NUMBER	
Project Management Plan		DID-PM-01	
3. DESCRIPTION / PURPOSE			
The Contractor must develop, implement and maintain a crane Project Management Plan (PMP) in order to fulfill the project management requirements of this SOW.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DND DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-PM-01			
SOW Ref: 4.2			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			
10.1 The Project Management Plan (PMP) must be prepared in Contractor's format			
10.2 Structure - The PMP must contain, as a minimum, the following sections:			
1. Management Organization, Communications and Responsibilities			
2. Work Breakdown Structure (WBS)			
3. Master Schedule with Milestones			
4. Configuration Management Strategy IAW SOW Ref: 4.2			
5. QA Plan IAW the contract			
6. Inspections and Tests Plans			
7. Risk Register and Mitigation Strategy			

**Table 8-191: DID-PM-01**

#### 8.4.1.2 DID-PM-02

1. TITLE		2. IDENTIFICATION NUMBER	
Meeting Agendas		DID-PM-02	
3. DESCRIPTION / PURPOSE			
The purpose of the Meeting / Teleconference / Conference Supporting Documentation and Agenda is to provide the proposed subject items for review and discussion.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DND DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-PM-02			
SOW Ref: 4.4.5 and 4.4.6			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			
10.1 Supporting documentation and agenda must be prepared in the Contractor's format.			
10.2 The Agenda must include the following:			
<ol style="list-style-type: none"> <li>1. Purpose of the meeting;</li> <li>2. List of expected attendees;</li> <li>3. Time, date, location and expected duration of the meeting;</li> <li>4. Facilities and equipment to be provided for attending personnel;</li> <li>5. List of data items and documents to be reviewed or provided to support the meeting. Adequate copies of all such data and documentation must be provided; and</li> <li>6. Adequate copies of the current AIL where appropriate.</li> </ol>			

**Table 8-202: DID-PM-02**

### 8.4.1.3 DID-PM-03

1. TITLE		2. IDENTIFICATION NUMBER	
Meeting Minutes		DID-PM-03	
3. DESCRIPTION / PURPOSE			
The purpose of Meeting / Teleconference / Conference Minutes is to document discussions, agreements and action items identified (with the responsible parties and closure dates) reached during subject meetings.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)	6.SPARE	
	Technical Authority, DND DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-PM-03			
SOW Ref: 4.4.7			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS - INSTRUCTIONS SUR LA PRESENTATION DES			
10.1	Meeting / Teleconference / Conference Minutes must be prepared in the Contractor's format and must include the following information:		
	<ol style="list-style-type: none"> <li>1. Date and location of meeting;</li> <li>2. Name, organization, phone number, e-mail address and title of each person that attended the meeting;</li> <li>3. Statement relating to the purpose and/or objective of the meeting; and</li> <li>4. The original agenda and any revisions to the agenda - this may be accomplished by reference to attachments or enclosures.</li> </ol>		
10.2	Minutes should include a record of each item discussed or reviewed during the meeting, including:		
	<ol style="list-style-type: none"> <li>1. A brief statement identifying the item or problem and their status;</li> <li>2. A summary of pertinent information associated with the item;</li> <li>3. A recommendation;</li> <li>4. An action item - identifying the person or organization responsible for taking and/or co-ordinating required action with key dates; and</li> <li>5. An updated Action Item List (AIL) with all open and closed items.</li> </ol>		
10.3	Meeting minutes should be distributed, where possible, at the end of the meeting and signed by the responsible parties before leaving. Otherwise the meeting minutes must be delivered as directed in CDRL.		

**Table 8-213: DID-PM-03**

#### 8.4.1.4 DID-PM-04

1. TITLE		2. IDENTIFICATION NUMBER	
Project Status Reports		DID-PM-04	
3. DESCRIPTION / PURPOSE			
The project status reports provide a chronological update on the project progress in comparison to the project management plan and project schedule.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DND DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-PM-04			
SOW Ref: 4.4.2.1			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			
10.1 The Project Status Reports must be prepared in the Contractor's format and contain necessary amendments to the PMP as appropriate.			
10.2 The Project Status Reports must include at least the following information:			
<ol style="list-style-type: none"> <li>1. A narrative report providing sufficient detail to enable the Contracting and the Technical Authorities to evaluate the progress of the work to date;</li> <li>2. Risk management activities. Significant problems or concerns encountered together with recommended course of action;</li> <li>3. Schedules status, schedule changes and planned activities for the next reporting period;</li> <li>4. A summary of any issues for meeting requirements / specifications;</li> <li>5. Running summary of hardware, software and system observations and problems that have been opened, are in progress or have been resolved; and</li> <li>6. Subset of Action Item List containing all open action items.</li> </ol>			

**Table 8-224: DID-PM-04**



#### 8.4.1.5 DID-PM-05

1. TITLE		2. IDENTIFICATION NUMBER	
Project Kickoff Meeting (PSR)		DID-PM-05	
3. DESCRIPTION / PURPOSE			
The Project Kickoff Meeting is to review the project management plan and the project schedule.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)	6. SPARE	
	Technical Authority, DGMEPM, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-PM-05			
SOW Ref: 4.4.1			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			
<p>10.1 The Project kick off meeting must Within one (1) month of Contract Award, IAW CDRL item CDRL-PM-05 at the Contractor's facility, via video or teleconference or elsewhere as agreed to by Canada, and shall include as a minimum:</p> <ul style="list-style-type: none"> <li>a) Meeting agenda</li> <li>b) Overview of the project management plan</li> <li>c) Critical path activities</li> <li>d) Technical specifications</li> </ul>			

**Table 8-235: DID-PM-05**

**8.4.2 Engineering DIDs**  
**8.4.2.1 DID-EN-01**

1. TITLE		2. IDENTIFICATION NUMBER	
Initial Design Documents		DID-EN-01	
3. DESCRIPTION / PURPOSE.			
The Initial Design Documents must provide all of the review materials required for the Initial Design Review meeting.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DND, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP - APPLICATION / INTERDEPENDANCE			
CDRL-EN-01			
SOW Ref: 3.2			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			

10.1	<p>The following document must be provided to, but not be limited to, the Initial Design Review meeting:</p> <p>All data to prove that the Contractors proposed solution meets all the technical and logistic requirements of the SOW.</p> <p>Draft documents to include but are not limited to:</p> <ol style="list-style-type: none"> <li>1. Draft Electrical schematics / design for the crane;</li> <li>2. Draft Electrical hardware for the crane;</li> <li>3. Draft Software architecture / design diagram and description</li> <li>4. Draft Structural drawings / design for the crane</li> <li>5. Draft Mechanical drawings / design for the crane</li> <li>6. Draft Mechanical hardware for the crane</li> <li>7. Draft Hydraulic drawings / design for the crane</li> <li>8. Draft Hydraulic hardware for the crane</li> <li>9. Draft Control System Descriptions, including all Safety Systems</li> <li>10. Draft Crane Load Diagram, which must include but is not limited to, ultimate load, SWL and working load limit.</li> <li>11. Draft Installation Information <ul style="list-style-type: none"> <li>• Must include design installation criteria and installation recommendations for the completion of a final design installation specification by DND.</li> </ul> </li> <li>12. Draft Inspections and Tests Plans including all applicable information to cover FAT (DID-AT-01), Vessel STW (DID-AT-02), and SAT (DID-AT-03)</li> <li>13. Listing of the Classification Society Certifications and Approvals required.</li> <li>14. Draft Crane design load, moment and force calculations of the new crane <ul style="list-style-type: none"> <li>• Design load, moment and force calculations associated with the crane, that comply to Classification Society requirements and to enable calculation of structural strength requirements to allow for full design operational loading and consequent structural support design</li> </ul> </li> <li>15. Draft Integrated Logistics Support (ILS) documentation <ul style="list-style-type: none"> <li>• OEM piece part and full crane assembly technical drawings in CAD format. The Contractor must not withhold proprietary rights to these assembly and piece part drawings.(DID-LOG-03)</li> </ul> </li> <li>16. Draft Recommended vessel's structural requirements to support and operate the new crane and associated equipment, including the respective pedestal adaptor, bases and/or seating</li> <li>17. Draft New crane pedestal adaptor, if applicable</li> <li>18. Interface power supply requirements for the new crane and associated equipment</li> <li>19. Draft Crane Integrated Communication System (ICS) interface requirements;</li> <li>20. Draft Crane Alarm and Monitoring System (AMS) interface requirements and</li> <li>21. Draft Crane and associated equipment General Arrangement and layout drawings</li> </ol>
------	---

10.2	<ol style="list-style-type: none"> <li>1. Prepare the Initial Design Documents using metric units, unless the source of the original documentation is non-metric, and no changes to that original documentation are to be made.</li> <li>2. Prepare Initial Design Documents in the Contractors format.</li> <li>3. The Initial Design Documents including the initial, preliminary, critical and final versions must be presented to the TA at the design review meetings for review to check compliance with the SOW.</li> <li>4. Utilize a provided drawing number sequence and subject headers as this specification will be tendered as part of a larger specification package</li> </ol>
------	--

**Table 8-246: DID-EN-01**

#### 8.4.2.2 DID-EN-02

1. TITLE		2. IDENTIFICATION NUMBER	
Preliminary Design Documents		DID-EN-02	
3. DESCRIPTION / PURPOSE			
<p>The Preliminary Design Documents must provide all of the review materials required for the Preliminary Design Review meeting.</p> <p>Preliminary design documents must, detail all structural support all design load, moment and force calculations associated with the crane, in compliance with Classification Society requirements and to enable calculation of structural strength requirements to allow for full design operational loading and consequent structural support design and TDP. The preliminary design review package will determine the feasibility to integrate the crane design into the Halifax class ships.</p>			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DND, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-EN-02			
SOW Ref: 3.2			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			

10.1	<p>The following document must be provided to, but not be limited to, the Preliminary Design Review meeting:</p> <p>All data to prove that the Contractors proposed solution meets all the technical and logistic requirements of the SOW.</p> <p>Draft documents to include but are not limited to:</p> <ol style="list-style-type: none"> <li>1. Draft Electrical schematics / design for the crane;</li> <li>2. Draft Electrical hardware for the crane;</li> <li>3. Draft Software architecture / design diagram and description</li> <li>4. Draft Structural drawings / design for the crane</li> <li>5. Draft Mechanical drawings / design for the crane</li> <li>6. Draft Mechanical hardware for the crane</li> <li>7. Draft Hydraulic drawings / design for the crane</li> <li>8. Draft Hydraulic hardware for the crane</li> <li>9. Draft Control System Descriptions, including all Safety Systems</li> <li>10. Draft Crane Load Diagram, which must include but is not limited to, ultimate load, SWL and working load limit.</li> <li>11. Draft Details of a Failure Modes and Effect Analysis (FMEA) for the crane</li> <li>12. Draft Installation Information <ul style="list-style-type: none"> <li>• Must include design installation criteria and installation recommendations for the completion of a final design installation specification by DND.</li> </ul> </li> <li>13. Draft Inspections and Tests Plans including all applicable information to cover FAT (DID-AT-01), Vessel STW (DID-AT-02), and SAT (DID-AT-03)</li> <li>14. Listing of the Classification Society Certifications and Approvals required.</li> <li>15. Draft Crane design load, moment and force calculations of the new crane <ul style="list-style-type: none"> <li>• Design load, moment and force calculations associated with the crane, that comply to Classification Society requirements and to enable calculation of structural strength requirements to allow for full design operational loading and consequent structural support design</li> </ul> </li> <li>16. Draft Integrated Logistics Support (ILS) documentation <ul style="list-style-type: none"> <li>• OEM piece part and full crane assembly technical drawings in CAD format. The Contractor must not withhold proprietary rights to these assembly and piece part drawings.(DID-LOG-03)</li> </ul> </li> <li>17. Draft Recommended vessel's structural requirements to support and operate the new crane and associated equipment, including the respective pedestal adaptor, bases and/or seating</li> <li>18. Draft New crane pedestal adaptor, if applicable</li> <li>19. Interface power supply requirements for the new crane and associated equipment</li> <li>20. Draft Crane Integrated Communication System (ICS) interface requirements;</li> <li>21. Draft Crane Alarm and Monitoring System (AMS) interface requirements and</li> <li>22. Draft Crane and associated equipment General Arrangement and layout drawings</li> </ol>
------	--

10.2	<ol style="list-style-type: none"> <li>1. Prepare the Preliminary Design Documents using metric units, unless the source of the original documentation is non-metric, and no changes to that original documentation are to be made.</li> <li>2. Prepare Preliminary Design Documents in the Contractors format.</li> <li>3. The Preliminary Design Documents including the initial, preliminary, critical and final versions must be presented to the TA at the design review meetings for review to check compliance with the SOW.</li> <li>4. Utilize a provided drawing number sequence and subject headers as this specification will be tendered as part of a larger specification package</li> </ol>
------	--

**Table 8-257: DID-EN-02**

### 8.4.2.3 DID-EN-03

1. TITLE		2. IDENTIFICATION NUMBER	
Critical Design Documents		DID-EN-03	
3. DESCRIPTION / PURPOSE			
<p>The Critical Design Documents must provide all of the review materials required for the Critical Design Review meeting.</p> <p>The Critical Design Documents detail all required design changes necessary as a result of the review of the Preliminary Design Documents that are required as a result of the structural and design requirements for Naval shipboard installation in final development of a design installation package by DND.</p>			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DND, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP - APPLICATION / INTERDEPENDANCE			
CDRL-EN-03			
SOW Ref: 3.2			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			



10.1	<p>The following document must be provided to, but not be limited to, the Critical Design Review meeting:</p> <p>All data to prove that the Contractors proposed solution meets all the technical and logistic requirements of the SOW.</p> <p>Draft documents to include but are not limited to:</p> <ol style="list-style-type: none"> <li>1. Draft Electrical schematics / design for the crane;</li> <li>2. Draft Electrical hardware for the crane;</li> <li>3. Draft Software architecture / design diagram and description</li> <li>4. Draft Structural drawings / design for the crane</li> <li>5. Draft Mechanical drawings / design for the crane</li> <li>6. Draft Mechanical hardware for the crane</li> <li>7. Draft Hydraulic drawings / design for the crane</li> <li>8. Draft Hydraulic hardware for the crane</li> <li>9. Draft Control System Descriptions, including all Safety Systems</li> <li>10. Draft Crane Load Diagram, which must include but is not limited to, ultimate load, SWL and working load limit.</li> <li>11. Draft Details of a Failure Modes and Effect Analysis (FMEA) for the crane</li> <li>12. Draft Installation Information <ul style="list-style-type: none"> <li>• Must include design installation criteria and installation recommendations for the completion of a final design installation specification by DND.</li> </ul> </li> <li>13. Draft Inspections and Tests Plans including all applicable information to cover FAT (DID-AT-01), Vessel STW (DID-AT-02), and SAT (DID-AT-03)</li> <li>14. Listing of the Classification Society Certifications and Approvals required.</li> <li>15. Draft Crane design load, moment and force calculations of the new crane <ul style="list-style-type: none"> <li>• Design load, moment and force calculations associated with the crane, that comply to Classification Society requirements and to enable calculation of structural strength requirements to allow for full design operational loading and consequent structural support design</li> </ul> </li> <li>16. Draft Integrated Logistics Support (ILS) documentation <ul style="list-style-type: none"> <li>• OEM piece part and full crane assembly technical drawings in CAD format. The Contractor must not withhold proprietary rights to these assembly and piece part drawings.(DID-LOG-03)</li> </ul> </li> <li>17. Draft Recommended vessel's structural requirements to support and operate the new crane and associated equipment, including the respective pedestal adaptor, bases and/or seating</li> <li>18. Draft New crane pedestal adaptor, if applicable</li> <li>19. Interface power supply requirements for the new crane and associated equipment</li> <li>20. Draft Crane Integrated Communication System (ICS) interface requirements;</li> <li>21. Draft Crane Alarm and Monitoring System (AMS) interface requirements and</li> <li>22. Draft Crane and associated equipment General Arrangement and layout drawings</li> </ol>
------	---

10.2	<ol style="list-style-type: none"> <li>1. Prepare the Critical Design Documents using metric units, unless the source of the original documentation is non-metric, and no changes to that original documentation are to be made.</li> <li>2. Prepare Critical Design Documents in the Contractors format.</li> <li>3. The Critical Design Documents including the initial, preliminary, critical and final versions must be presented to the TA at the design review meetings for review to check compliance with the SOW.</li> <li>4. Utilize a provided drawing number sequence and subject headers as this specification will be tendered as part of a larger specification package</li> </ol>
------	---

**Table 8-268: DID-EN-03**

#### 8.4.2.4 DID-EN-04

1. TITLE		2. IDENTIFICATION NUMBER	
TECHNICAL DATA PACKAGE (TDP)		DID-EN-04	
3. DESCRIPTION / PURPOSE			
The TDP is intended to provide the necessary data for any third party contractor to operate and install the crane and all its equipment on any ship.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DND, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP - APPLICATION / INTERDEPENDANCE			
CDRL-EN-04			
DID-AT-01, DID-AT-02, DID-AT-03			
SOW Ref: 3.2			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			
10.1 The Contractor shall supply a complete set of technical drawings for the complete crane system, converted to PDF format, to allow for full identification of all component parts, disassembly of the crane system components, conduct of 3rd line corrective maintenance, test data, conforming to the requirements of D-01-400-002/SF-001, Specification for levels of engineering Drawings.			

10.2	<p>The TDP is intended to provide the necessary data for any third party contractor to operate and install the crane and all its equipment on any ship.</p> <p>TDP must include each of the following but is not limited to:</p> <ol style="list-style-type: none"> <li>1. Final Electrical schematics / design for the crane;</li> <li>2. Final Electrical hardware for the crane;</li> <li>3. Final Software architecture / design diagram and description</li> <li>4. Final Structural drawings / design for the crane</li> <li>5. Final Mechanical drawings / design for the crane</li> <li>6. Final Mechanical hardware for the crane</li> <li>7. Final Hydraulic drawings / design for the crane</li> <li>8. Final Hydraulic hardware for the crane</li> <li>9. Final Control System Descriptions, including all Safety Systems</li> <li>10. Final Details of a Failure Modes and Effect Analysis (FMEA) for the crane</li> <li>11. Final Crane Load Diagram, which must include but is not limited to, ultimate load, SWL and working load limit.</li> <li>12. Final Installation Information <ul style="list-style-type: none"> <li>• Must include design installation criteria and installation recommendations for the completion of a final design installation specification by DND.</li> </ul> </li> <li>13. Final Inspections and Tests Plans including all applicable information to cover FAT (DID-AT-01), Vessel STW (DID-AT-02), and SAT (DID-AT-03)</li> <li>14. Final Listing of the Classification Society Certifications and Approvals required.</li> <li>15. Final Crane design load, moment and force calculations of the new crane <ul style="list-style-type: none"> <li>• Design load, moment and force calculations associated with the crane, that comply to Classification Society requirements and to enable calculation of structural strength requirements to allow for full design operational loading and consequent structural support design</li> </ul> </li> <li>16. Final Integrated Logistics Support (ILS) documentation <ul style="list-style-type: none"> <li>• OEM piece part and full crane assembly technical drawings in CAD format. The Contractor must not withhold proprietary rights to these assembly and piece part drawings.(DID-LOG-03)</li> </ul> </li> <li>17. Final Recommended vessel's structural requirements to support and operate the new crane and associated equipment, including the respective pedestal adaptor, bases and/or seating</li> <li>18. Final New crane pedestal adaptor, if applicable</li> <li>19. Final Interface power supply requirements for the new crane and associated equipment</li> <li>20. Final Crane Integrated Communication System (ICS) interface requirements;</li> <li>21. Final Crane Alarm and Monitoring System (AMS) interface requirements and</li> <li>22. Final Crane and associated equipment General Arrangement and layout drawings.;</li> </ol>
------	--

10.3	<ol style="list-style-type: none"> <li>1. Prepare the TDP using metric units, unless the source of the original documentation is non-metric, and no changes to that original documentation are to be made.</li> <li>2. Prepare TDP in the Contractors format.</li> <li>3. The TDP including the initial, preliminary, critical and final versions must be presented to the TA at the design review meetings for review to check compliance with the SOW.</li> <li>4. Utilize a provided drawing number sequence and subject headers as this specification will be tendered as part of a larger specification package</li> </ol>
------	---

**Table 8-29: DID-EN-04**

### 8.4.3 Acceptance Testing DIDs

#### 8.4.3.1 DID-AT-01

1. TITLE		2. IDENTIFICATION NUMBER	
Crane Factory Acceptance Test (FAT) Plan and Procedures		DID-AT-01	
3. DESCRIPTION / PURPOSE			
Deliver the plan and procedures to prepare the testing at the factory of the crane with all of its mechanical, hydraulic and electrical equipment and components.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DGMEPM, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-AT-01			
SOW Ref: 3.2 and 6.3.1			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			
10.1 May be prepared in the Contractor's format.			
10.2 The Contractor must develop and deliver for approval a crane FAT Plan that will address as a minimum the following:			
<ol style="list-style-type: none"> <li>1. The list of prerequisite mandatory inspection reports required, to verify Classification Society and technical requirements of the statement of SOW, in order to proceed with the FAT</li> <li>2. The detailed list of supplies and systems required to complete the FAT without being limited to <ol style="list-style-type: none"> <li>a) electrical power supply</li> <li>b) hydraulic oil supply</li> <li>c) communication systems required</li> <li>d) alarm systems required</li> <li>e) certified weights required</li> </ol> </li> <li>3. The list of the personnel required for <ol style="list-style-type: none"> <li>a) The weights handling</li> <li>b) The crane operation</li> <li>c) The readings and data collection</li> </ol> </li> <li>4. The list of the mandatory attendance without being limited to <ol style="list-style-type: none"> <li>a) DND</li> <li>b) Regulatory Bodies</li> </ol> </li> </ol>			

5. The safety requirements at the factory
6. The list of approved test and data sheets to be filled during the trial
7. The sequential order and type of trials to be conducted on the equipment and on the crane and their respective performances to be obtained

**Table 8-270: DID-AT-01**

### 8.4.3.2 DID-AT-02

1. TITLE		2. IDENTIFICATION NUMBER	
Crane STW Plan and Procedures		DID-AT-02	
3. DESCRIPTION / PURPOSE			
Deliver the plan and procedures to conduct the crane STW on the vessel.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DGMEPM, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-AT-02			
SOW Ref: 6.3.2			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			
10.1 May be prepared in the Contractor's format.			
10.2 The Crane STW Plan and Procedures must include the following as a minimum:			
10.3 1. Define the objectives of the tests and the related deliverables subject to the Classification Society approval			
2. Recommend and provide a Plan and Procedures for the crane STW on the vessel			
3. Define the vessel operating conditions required to perform the crane STW trial			
4. Define personnel requirement and time requirements to perform the STW trials			
5. Coordinate the required LR surveyors attendance at the Crane STW			
6. Coordinate with the DND TA or representative for the Contractors attendance at the Crane STW			

**Table 8-281: DID-AT-02**



### 8.4.3.3 DID-AT-03

1. TITLE  Crane Sea Acceptance Trial (SAT) Plan and Procedures		2. IDENTIFICATION NUMBER  DID-AT-03	
3. DESCRIPTION / PURPOSE  Deliver the plan and procedures of the SAT of the crane and its equipment and components in operational conditions at sea.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)  Technical Authority, DGMEPM, DNPS 6-3		6. SPARE
7. APPLICATION / INTERRELATIONSHIP  CDRL-AT-03, SOW Ref: 3.2 and 6.3.3			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			

10.1 May be prepared in the Contractor's format.

10.2 The Crane SAT Plan and Procedures must include the following as a minimum:

1. The list of prerequisite mandatory inspection reports required, to verify Classification Society and technical requirements of the statement of SOW, in order to proceed with the SAT
2. The detailed list of supplies and systems required to complete the SAT without being limited to:
  - a) electrical power supply
  - b) hydraulic oil supply
  - c) communication systems required
  - d) alarm systems required
  - e) certified weights required
3. The list of the personnel required for:
  - a) The weights handling
  - b) The crane operation
  - c) The readings and data collection
4. The coordination with DND for the vessel's availability and weather conditions;
5. The list of the mandatory attendance without being limited to:
  - a) DND
  - b) Regulatory Bodies.
6. The safety requirements related to crane operation onboard
7. The approved test and data sheets to be filled during the trial
8. The sequential order and type of trials to be conducted on the equipment and on the crane and their respective performances to be obtained
9. Confirmation of crane and associated equipment and components commissioning

10.3 Based on the Crane's SAT Plan and Procedures, the Contractor must develop and deliver a crane Sea Trial schedule that will be integrated into the ships operational/trials schedule. The schedule must provide an estimated duration in days of each of the main activities described into the SAT Plan and Procedures. The schedule will be developed in MS Project format and delivered one (1) soft copy.

**Table 8-292: DID-AT-03**

Page 72 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

#### 8.4.3.4 DID-AT-04

1. TITLE		2. IDENTIFICATION NUMBER	
STW and Acceptance Test Reports		DID-AT-04	
3. DESCRIPTION / PURPOSE			
To report on the crane various FAT, STW and SAT.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DGMEPM, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-AT-04, SOW Ref 3.2 and 6.3.1 to 6.3.6.			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			
10.1 May be prepared in the Contractor's format.			
10.2 The various FAT, STW reports must include the following as a minimum:			
<ol style="list-style-type: none"> <li>1. Description of the system and the test set up environment.</li> <li>2. Copies of the FAT, STW and SAT Plans, the FAT, STW and SAT Procedures.</li> <li>3. Copies of all the test reports where applicable.</li> <li>4. A summary of the status of the equipment, any changes / modifications that were made during the set up and details of any failures experienced, and the remedial action that was taken to restore the equipment to its specified operating conditions.</li> <li>5. A section detailing faulty devices or equipment "set-to-work", which must include as a minimum: <ol style="list-style-type: none"> <li>a) Test / measurement plan of the equipment with expected results</li> <li>b) Faulty Test / measurement records</li> <li>c) Remedy actions</li> <li>d) Test Records after remedy</li> <li>e) Confirmation of acceptance of the faulty device or equipment</li> </ol> </li> <li>6. A section detailing any failure to meet any requirement of the SOW and the Contractor corrective actions to gain SOW compliance.</li> <li>7. Summary of any recommendations.</li> </ol>			

**Table 8-303: DID-AT-04**

**8.4.4 Integrated Logistics Support DIDs**  
**8.4.4.1 DID-LOG-01**

1. TITLE		2. IDENTIFICATION NUMBER	
Crane Cadre Training and Training Package		DID-LOG-01	
3. DESCRIPTION / PURPOSE			
The crane cadre training agenda and plan will be for one (1) cadre training session on board each HFX Class ship, in both Esquimalt and Halifax. Cadre training is not the ships staff training that is provided at STW.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DGMEPM, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-LOG-01, SOW Ref: 3.2 and 7.3			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			

10.1	<p>The Contractor shall provide a crane operator and maintainer training package, in MS Office format, to allow subsequent training of the equipment at DND facility. Four (4) copies of the training package shall be delivered to the TA.</p>
10.2	<p>Fourteen (14) Cadre training sessions will be held.</p> <p>Five (5) training sessions will take place in Victoria, BC and seven (7) training sessions will take place in Halifax, NS onboard the ships alongside. The training must be provided to DND operational, maintenance and training staff. The Cadre training sessions shall be conducted for ships staff after the successful completion of each shipboard installation, with a maximum of six (6) students at each training session.</p> <p>One (1) training session in Victoria, BC and one (1) training session in Halifax, NS at the fleet school facilities. A maximum of twelve (12) students will attend each training session. The Cadre training session must include without being limited to the crane capabilities, features and components with a complete set of simulated realistic training scenarios. Practical training phase will utilise installed shipboard or Fleets school cranes as training aids.</p> <p>The crane cadre training will include, as a minimum:</p> <ol style="list-style-type: none"> <li>1. The instruction for the DND operational, maintenance and training staff on crane components and functions;</li> <li>2. Various operating modes</li> <li>3. Instrumentations</li> <li>4. Limits of operation, alarms, safety and shut downs</li> <li>5. Alarms</li> <li>6. System troubleshooting and hands-on operation. training</li> <li>7. The crane and its various equipment start-up</li> <li>8. The crane and its various equipment routine inspections, maintenances and adjustments</li> <li>9. The crane and its various equipment shut down and long term stowage protections.</li> </ol>
10.3	<p>The Contractor will provide a Cadre training package which must include but is not limited to the following;</p> <ol style="list-style-type: none"> <li>1. Outline</li> <li>2. Training materials</li> <li>3. Workbook/Manual/Text etc.</li> <li>4. Appropriate training aids</li> </ol>

**Table 8-314: DID-LOG-01**

Page 75 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018

#### 8.4.4.2 DID-LOG-02

1. TITLE		2. IDENTIFICATION NUMBER	
Crane Maintenance Concept		DID-LOG-02	
3. DESCRIPTION / PURPOSE			
The crane Maintenance Concept must provide a complete set of maintenance plans that identify the required maintenance tasks and identify the logistics support resources needed to perform the tasks.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)	6. SPARE	
	Technical Authority, DGMEPM, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-LOG-02, SOW Ref: 7.2			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			

10.1 Must be prepared in the Contractor's format.

10.2 The submission must identify the required maintenance for each system/component including overhaul requirements. The data shall be consolidated into one document.

10.3

The data shall be grouped into tables listing routine, calendar based and operating hour based tasks. An example breakout is shown below. Each interval within a category will be a column in its respective table.

Scheduled Task	Interval
Routine Crew Tasks	Daily or Weekly
Monthly Maintenance Tasks	e.g. 1, 3, 4, 6, 12, 18, 24, 36, 48 or 60 months
Usage-Based Maintenance Tasks	e.g. 100, 200, 250, 400, 500, 800, 1000, 2000, 3000, 4000, 5000 or 6000 hours

10.4 The crane Maintenance Concept shall include a section presenting maintenance task data sheets that contain the following information for each maintenance task:

1. Maintenance identification number;
2. Asset (equipment);
3. Description (brief, of maintenance item);
4. Steps/Process (including safety considerations, special tools required);
5. Frequency (number, i.e. 1, 500);
6. Frequency units (i.e. Hours, Months, Year);
7. Parts Required;
8. Estimated LOE (Length of Effort).

**Table 8-325: DID-LOG -02**

#### 8.4.4.3 DID-LOG-03

1. TITLE		2. IDENTIFICATION NUMBER	
ILS Documentation		DID-LOG-03	
3. DESCRIPTION / PURPOSE			
The ILS Documentation is to provide guidance and background information to assist DND in development and implementation of an Integrated Logistics Support Process.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST (OPI)		6. SPARE
	Technical Authority, DGMEPM, DNPS 6-3		
7. APPLICATION / INTERRELATIONSHIP			
CDRL-LOG-03, SOW Ref: 7 DID-EN-04			
8. ORIGINATOR		9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS			
10.1 The ILS Documentation is to include:			
<ol style="list-style-type: none"> <li>1. Spare Parts Manuals</li> <li>2. Provisioning Parts Breakdown</li> <li>3. Recommended Maintenance Plan</li> <li>4. FMEA</li> <li>5. Mean Time Between Failure analysis (MTBF)</li> <li>6. Operations Manual and</li> <li>7. Maintenance Manual</li> <li>8. Technical Drawing Package (DID-EN-04)</li> </ol>			



## 10.2 Operations Manual

The Contractor must provide a complete equipment operations and preventative and corrective maintenance manual (s) formatted IAW C-01-100-100/AG-006 Specification Writing, Format and Production of Technical Publications.

The manual shall include detailed information with regard to the crane's design and concept of operations in all sea states, indicating all known points of failure, including loss of hydraulics, and structural and base damage when used in extreme sea states. The manual shall also include pertinent information regarding:

1. Safety features;
2. Overload protection;
3. Load/Moment indicators;
4. Off lead and side lead capability;
5. Emergency load lowering;
6. Manual operation;
7. Control panel / Remote control operational maintenance instructions

Maintenance manuals shall include without being limited to the following:

- a) Mechanical and Electrical equipment including all wiring;
- b) System troubleshooting documentation;
- c) Repair instructions;
- d) All the mechanical and electrical schematics / drawings; and
- e) Illustrated Parts Breakdowns (IPB).

Two (2) hard copies and two (2) electronic copies of the manual shall be provided to the TA on delivery of the first crane units to DND and one (1) additional electronic copy shall be included with each delivered crane.

## 10.3 Provisioning Parts Breakdown

The Contractor must provide a complete system provisioning parts breakdown, in MS Excel format, consisting of a hierarchy of all crane and hydraulic power system components, sub-components, and piece parts. This provisioning parts breakdown must detail the complete system assembly parts breakout with original manufacturers name and part number for each crane and hydraulic power system components, sub-components, and piece part. Two (2) hard copies and 2 electronic copies of the PPB shall be provided to the TA on delivery of the first crane units to DND.

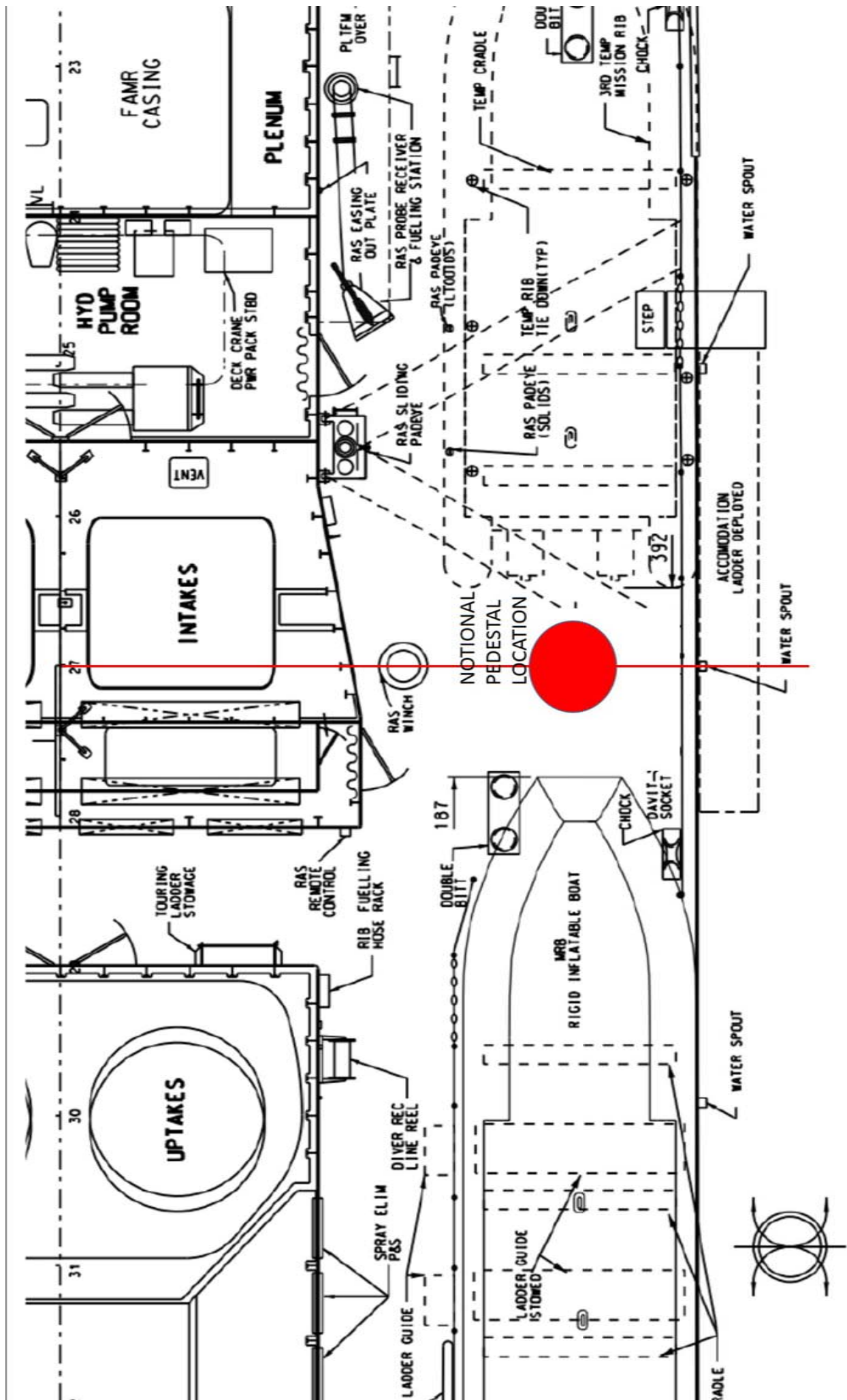
#### 10.4 Recommended Spare Parts List

The Contractor shall supply a list of complete crane system recommended maintenance spares in MS Office Based format, to define the consumable and non- consumable spare parts required to conduct all manufacturer recommended first (1st) and second (2nd) line maintenance. The RSPL shall include the part name, Drawing item reference number, original OEM part number, Manufacturer part number and quantity required for a full equipment maintenance cycle.

Two (2) hard copies and 2 electronic copies of the RSPL shall be provided to the TA on delivery of the first crane units to DND.

**Table 8-336: DID-LOG -03**

Page 80 of 80	Halifax Replacement Crane	SOW	Revision	Date
			10	24 May 2018



**ANNEX B**  
**MILESTONE PAYMENT SCHEDULE**

<b>MILESTONE No.</b>	<b>DESCRIPTION - PM AND DESIGN DOCUMENTS</b>	<b>FIRM PRICE</b>
<b>DESIGN</b>		
1	Completion of Project Kick Off Meeting and Acceptance of Project Management Plan	
2	Delivery of Initial Design Documents	
3	Delivery of Maintenance Concept and ILS Documentation	
4	Delivery of Preliminary Design Documents	
5	Acceptance of Critical Design Documents	
6	Acceptance of Technical Data Package; FAT Plans and Procedures; STW Plans and Procedures; SAT Plans and Procedures	
7	Delivery of the Cadre Training Material Package	
	<b>Total Design Phase (Total price not to exceed 12.5% of Total Contract Value)</b>	

<b>MILESTONE No.</b>	<b>DESCRIPTION - CFB HALIFAX*</b>	<b>FIRM PRICE</b>
<b>CRANES</b>		
8A	Ship Crane #1 - Acceptance of FAT	
8B	Ship Crane #1 - Delivery to CFB Halifax: Crane, Spare Parts and Special Purpose Tools	
8C	Ship Crane #1 - Acceptance of Set to Work Trials	
8D	Ship Crane #1 - Delivery of Cadre Training Session #1	
8E**	Ship Crane #1 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #1</b>	
9A	Ship Crane #2 - Acceptance of FAT	
9B	Ship Crane #2 - Delivery to CFB Halifax: Crane, Spare Parts and Special Purpose Tools	
9C	Ship Crane #2 - Acceptance of Set to Work Trials	
9D	Ship Crane #2 - Delivery of Cadre Training Session #2	
9E**	Ship Crane #2 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #2</b>	
10A	Ship Crane #3 - Acceptance of FAT	
10B	Ship Crane #3 - Delivery to CFB Halifax: Crane, Spare Parts and Special Purpose Tools	
10C	Ship Crane #3 - Acceptance of Set to Work Trials	
10D	Ship Crane #3 - Delivery of Cadre Training Session #3	
10E**	Ship Crane #3 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #3</b>	
11A	Ship Crane #4 - Acceptance of FAT	
11B	Ship Crane #4 - Delivery to CFB Halifax: Crane, Spare Parts and Special Purpose Tools	
11C	Ship Crane #4 - Acceptance of Set to Work Trials	
11D	Ship Crane #4 - Delivery of Cadre Training Session #4	
11E**	Ship Crane #4 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #4</b>	
12A	Ship Crane #5 - Acceptance of FAT	
12B	Ship Crane #5 - Delivery to CFB Halifax: Crane, Spare Parts and Special Purpose Tools	
12C	Ship Crane #5 - Acceptance of Set to Work Trials	
12D	Ship Crane #5 - Delivery of Cadre Training Session #5	
12E**	Ship Crane #5 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #5</b>	
13A	Ship Crane #6 - Acceptance of FAT	
13B	Ship Crane #6 - Delivery to CFB Halifax: Crane, Spare Parts and Special Purpose Tools	
13C	Ship Crane #6 - Acceptance of Set to Work Trials	
13D	Ship Crane #6 - Delivery of Cadre Training Session #6	
13E**	Ship Crane #6 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #6</b>	
14A	Ship Crane #7 - Acceptance of FAT	
14B	Ship Crane #7 - Delivery to CFB Halifax: Crane, Spare Parts and Special Purpose Tools	
14C	Ship Crane #7 - Acceptance of Set to Work Trials	
14D	Ship Crane #7 - Delivery of Cadre Training Session #7	
14E**	Ship Crane #7 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #7</b>	
15A	Training Crane #8 - Acceptance of FAT	
15B	Training Crane #8 - Delivery to CFB Halifax: Crane, Spare Parts and Special Purpose Tools	
15C	Training Crane #8 - Acceptance of Set to Work Trials	
15D	Training Crane #8 - Delivery of Cadre Training Session #8	
15E**	Training Crane #8 - End of 12 month warranty period - final acceptance	
	<b>Total Training Crane #8</b>	
16A	Spare Crane #9 - Acceptance of FAT	
16B	Spare Crane #9 - Delivery to CFB Halifax and Acceptance: Crane, Spare Parts and Special Purpose Tools	
16C**	Spare Crane #9 - End of 12 month warranty period - final acceptance	
	<b>Total Spare Crane #9</b>	
17A	Spare Crane #10 - Acceptance of FAT	
17B	Spare Crane #10 - Delivery to CFB Halifax and Acceptance: Crane, Spare Parts and Special Purpose Tools	
17C**	Spare Crane #10 - End of 12 month warranty period - final acceptance	
	<b>Total Spare Crane #10</b>	

MILESTONE No.	DESCRIPTION - CFB ESQUIMALT*	FIRM PRICE
18A	Ship Crane #11 - Acceptance of FAT	
18B	Ship Crane #11 - Delivery CFB Esquimalt: Crane, Spare Parts and Special Purpose Tools	
18C	Ship Crane #11 - Acceptance of Set to Work Trials	
18D	Ship Crane #11 - Delivery of Cadre Training Session #9	
18E**	Ship Crane #11 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #11</b>	
19A	Ship Crane #12 - Acceptance of FAT	
19B	Ship Crane #12 - Delivery CFB Esquimalt: Crane, Spare Parts and Special Purpose Tools	
19C	Ship Crane #12 - Acceptance of Set to Work Trials	
19D	Ship Crane #12 - Delivery of Cadre Training Session #10	
19E**	Ship Crane #12 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #12</b>	
20A	Ship Crane #13 - Acceptance of FAT	
20B	Ship Crane #13 - Delivery CFB Esquimalt: Crane, Spare Parts and Special Purpose Tools	
20C	Ship Crane #13 - Acceptance of Set to Work Trials	
20D	Ship Crane #13 - Delivery of Cadre Training Session #11	
20E**	Ship Crane #13 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #13</b>	
21A	Ship Crane #14 - Acceptance of FAT	
21B	Ship Crane #14 - Delivery CFB Esquimalt: Crane, Spare Parts and Special Purpose Tools	
21C	Ship Crane #14 - Acceptance of Set to Work Trials	
21D	Ship Crane #14 - Delivery of Cadre Training Session #12	
21D**	Ship Crane #14 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #14</b>	
22A	Ship Crane #15 - Acceptance of FAT	
22B	Ship Crane #15 - Delivery CFB Esquimalt: Crane, Spare Parts and Special Purpose Tools	
22C	Ship Crane #15 - Acceptance of Set to Work Trials	
22D	Ship Crane #15 - Delivery of Cadre Training Session #13	
22E**	Ship Crane #15 - End of 12 month warranty period - final acceptance	
	<b>Total Ship Crane #15</b>	
23A	Training Crane #16 - Acceptance of FAT	
23B	Training Crane #16 - Delivery CFB Esquimalt: Crane, Spare Parts and Special Purpose Tools	
23C	Training Crane #16 - Acceptance of Set to Work Trials	
23D	Training Crane #16 - Delivery of Cadre Training Session #14	
23E**	Training Crane #16 - End of 12 month warranty period - final acceptance	
	<b>Total Training Crane #16</b>	
24A	Spare Crane #17 - Acceptance of FAT	
24B	Spare Crane #17 - Delivery to CFB Halifax and Acceptance: Crane, Spare Parts and Special Purpose Tools	
24C**	Spare Crane #17 - End of 12 month warranty period - final acceptance	
	<b>Total Spare Crane #17</b>	
25A	Spare Crane #18 - Acceptance of FAT	
25B	Spare Crane #18 - Delivery to CFB Halifax and Acceptance: Crane, Spare Parts and Special Purpose Tools	
25C**	Spare Crane #18 - End of 12 month warranty period - final acceptance	
	<b>Total Spare Crane #18</b>	

**TOTAL (CDN)**

\* Includes Classification Society Certification

\*\* Warranty shall be 10% of the total cost for each ship/training/spare crane

---

**ANNEX C**

**DELIVERY SCHEDULE**

<b>Item #</b>	<b>Description</b>	<b>'Specify' Days or Working Days (WD) after Contract Award (CA)</b>
1	Delivery of Project Management Plan	
2	Project Kick Off Meeting	
3	Delivery of Initial Design Documents	
4	Delivery of Maintenance Concept	
5	Delivery of Preliminary Design Documents	
6	Delivery of Critical Design Documents	
7	Delivery of Technical Data Package	
8	Delivery of the FAT Plans and Procedures	
9	Delivery of the STW Plans and Procedures	
10	Delivery of the SAT Plans and Procedures	
11	Delivery of the KB Crane Cadre Training Package	
12	Delivery of the 1 <sup>st</sup> Crane with Spare Parts and Special Purpose Tools	
13	Delivery of all eighteen (18) Cranes including Spare Parts and Special Purpose Tools.	
14	Delivery of all fourteen (14) option Cranes, if exercised, including Spare Parts and Special Purposes Tools	

## ANNEX D

### BASIS OF PAYMENT

#### SECTION 1

Item #	Price Breakdown for the Provision of (18) cranes IAW with Annex A SOW	Total Firm Price (\$)
1	Project Management as per Annex H, Section 1	
2	Acceptance of Engineering Design Documents of the Crane, as per Annex H, Section 2	
3	Acceptance of (18) Cranes, as per Annex H, Section 3	
4	Acceptance of (18) sets of Spare Parts, as per Annex H, Section 4	
5	Acceptance of (18) sets Special Purpose Tools, as per Annex H, Section 5	
6	Acceptance of Testing, Plans and Procedures, as per Annex H, Section 6	
7	Certification of Classification Society, as per Annex H, Section 7	
8	Acceptance of Integrated Logistics Support, as per Annex H Section 8	
9	Acceptance of (14) Option Cranes, if exercised, as per Annex H Section 9	
10	Acceptance of (14) Option sets of Spare Parts, if exercised, as per Annex H, Section 10	
11	Acceptance of (14) Option sets of Special Purpose Tools, if exercised, as per Annex H, Section 11	
<b>TOTAL PRICE (CDN)</b>		<b>\$</b>

Solicitation No. - N° de l'invitation  
W8482-156383/B  
Client Ref. No. - N° de réf. du client  
W8482-156383

Amd. No. - N° de la modif.  
File No. - N° du dossier  
033mc.W8482-156383

Buyer ID - Id de l'acheteur  
033mc  
CCC No./N° CCC - FMS No./N° VME

**SECTION 2 –The following Hourly rates shall apply as per Part 7, Clauses 5.2 Basis of Payment and 5.4 Discretionary Audit for Additional / Unscheduled Work of the RFP. The rates shall include profit, overhead, G&A, fees and expenses.**

Reference	Descriptions	Hourly Rate
Part 7 - 5.2.1	Labor Rate for Additional / Unscheduled Work	
Part 7 - 5.2.2	Overtime for Additional / Unscheduled Work: Time and One-Half if different than 5.2.1	
Part 7 - 5.2.3	Overtime for Additional / Unscheduled Work: Double Time if different than 5.2.1 and 5.2.2	



---

## ANNEX E

### PROCEDURE FOR PROCESSING ADDITIONAL / UNSCHEDULED WORK

#### 1. Purpose

The Unscheduled Work Procedure has been instituted for the following purposes:

- A) To establish a uniform method of dealing with requests for Unscheduled Work;
- B) To obtain the necessary Technical Authority approval and Contracting Authority authorization before Unscheduled Work commences; and
- C) To provide a means of maintaining a record of Unscheduled Work requirements including Serial Numbers, dates, and accumulated cost the Contractor shall have a cost accounting system that is capable of assigning job numbers for each Unscheduled Work requirement so that each requirement can be audited individually.

#### 2. Definitions and Particulars

- A) An Unscheduled Work Procedure is a contractual procedure whereby changes to the scope of Work under the Contract may be defined, priced and contractually agreed to. Such changes may arise from:
  - i. "Work Arising" from opening up of machinery and/or surveys of equipment and material,
  - ii. "New Work" not initially specified but required on the Vessel.
  - iii. Contractor attendance at vessel 'Set to Work' and/or 'Sea Acceptance Testing' on an 'as and when' required basis.
- B) The procedure does not allow for the correction of deficiencies in the Contractor's Proposal.
- C) No unscheduled work may be undertaken by the Contractor without written authorization of the Contracting Authority except under emergency circumstances described in Sub. Paragraph 3(b). Unscheduled Work.
- D) Work undertaken without written Contracting Authority authorization will be considered the Contractor's responsibility and cost.
- E) The appropriate DND form is the final summary of the definition of the Unscheduled Work requirement, and the costs negotiated and agreed to.

#### 3. Procedures

- A) The procedure involves the electronic form DND 626 Task Authorization will be the only forms for authorizing Additional or Unscheduled Work.
- B) Emergency measures required to prevent loss or damage to the Vessel which would occur if this procedure were followed, shall be taken by the Contractor on its own authority. The responsibility for the cost of such measures shall be determined in accordance with the terms and conditions of the Contract.

- C) The Technical Authority will initiate a work estimate request by defining the Additional / Unscheduled Work requirement. It will attach drawings, sketches, additional specifications, other clarifying details as appropriate, and allocate their Serial Number for the request.
- D) Notwithstanding the foregoing, the Contractor may propose to the Technical Authority in writing, either by letter or some type of Defect Advice Form (this is the Contractor's own form) that certain Unscheduled Work should be carried out.
- E) The Technical Authority will either reject or accept such Proposal, and advise the Contractor and Contracting Authority. Acceptance of the Proposal is not to be construed as authorization for the work to proceed. If required, the Technical Authority will then define the Additional / Unscheduled Work requirement in accordance with Sub. Paragraph 3.C).
- F) The Contractor will electronically submit its Proposal to the Contracting Authority together with all price support, any qualifications, remarks or other information requested.

The price support shall demonstrate the relationship between the scope of work, the Contractor's estimated costs and its selling price. It is a breakdown of the Contractor's unit rates, estimates of person hours by trade, estimate of material cost per item, for both the contractor and all of its subcontractors, estimates of any related impact and an evaluation of the contractor's time required to perform the Additional / Unscheduled Work.

- G) The Contractor shall provide copies of purchase orders and paid invoices for Subcontracts and/or materials, including stocked items, in either case. The Contractor shall provide a minimum of two quotations for Subcontracts or materials. If other than the lowest, or sole source is being recommended for quality and/or delivery considerations, this shall be noted. On request to the Contractor, the Contracting Authority shall be permitted, to meet with any proposed Subcontractor or material supplier for discussion of the price and always with the Contractor's representative present.
- H) After discussion between the Contracting Authority and the Contractor and if no negotiation is required, the Contracting Authority will seek Technical Authority confirmation to proceed by signing the form. The Contracting Authority will then sign and authorize the Additional / Unscheduled Work to proceed.
- I) In the event the Technical Authority does not wish to proceed with the work, it will cancel the proposed Additional / Unscheduled Work through the Contracting Authority in writing.
- J) In the event the negotiation involves a Credit, the appropriate DND form will be noted as "credit" accordingly.
- K) In the event that the Technical Authority requires Additional / Unscheduled Work of an urgent nature or an impasse has occurred in negotiations, the commencement of the Unscheduled Work should not be unduly delayed and should be processed as follows, in either case. The Contractor will complete the appropriate DND 626 form indicating the offered cost and pass it to the Contracting Authority. If the Technical Authority wishes to proceed, the Technical Authority and the Contracting Authority will sign the completed DND form with the notation, "CEILING PRICE SUBJECT TO DOWNWARD ADJUSTMENT", and allocate a Serial Number having the suffix "A". The work will proceed with the understanding that following an audit of the Contractor's actual costs for completing the described work, the cost will be finalized at the ceiling price or lower, if justified by the audit. A new DND form will then be completed with the finalized costs, signed and issued with the same Serial Number without the suffix "A", and bearing a notation that this form is replacing and cancelling the form having the same Serial Number with the suffix "A".

Solicitation No. - N° de l'invitation  
W8482-156383/B  
Client Ref. No. - N° de réf. du client  
W8482-156383

Amd. No. - N° de la modif.  
File No. - N° du dossier  
033mc.W8482-156383

Buyer ID - Id de l'acheteur  
033mc  
CCC No./N° CCC - FMS No./N° VME

---

NOTE: DND forms bearing Serial Numbers with a suffix "A" shall not to be included in any contract amendments, and therefore no payment shall be made until final resolution of the price and incorporation into the contract.

#### 4. Amendment to Contract or Formal Agreement

The Contract will be amended from time to time in accordance with the Contract terms to incorporate the costs authorized on the appropriate forms.

## **ANNEX F**

### **INSURANCE REQUIREMENTS**

#### **1 Commercial General Liability Insurance**

- 1.1 The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$10,000,000 per accident or occurrence and not less than \$20,000,000 in the annual aggregate.
- 1.2 The Commercial General Liability Insurance policy must include the following:
  - a Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
  - b Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
  - c Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
  - d Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
  - e Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
  - f Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
  - g Employees and, if applicable, Volunteers must be included as Additional Insured.
  - h Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program).
  - i Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
  - j Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
  - k If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
  - l Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.

- 
- m Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.
  - n Advertising Injury: While not limited to, the endorsement must include coverage piracy or misappropriation of ideas, or infringement of copyright, trademark, title or slogan.
  - o All Risks Tenants Legal Liability - to protect the Contractor for liabilities arising out of its occupancy of leased premises.
  - p Amendment to the Watercraft Exclusion to extend to incidental repair operations on board watercraft.
  - q Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.
  - r Litigation Rights: Pursuant to subsection 5(d) of the Department of Justice Act, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to:  
Director Business Law Directorate  
Quebec Regional Office (Ottawa)  
Department of Justice  
284 Wellington Street, Room SAT-6042  
Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to:

Senior General Counsel  
Civil Litigation Section  
Department of Justice  
234 Wellington Street, East Tower  
Ottawa, Ontario, K1A 0H8

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

## ANNEX G

### to PART 5 - BID SOLICITATION

#### FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY – CERTIFICATION

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit [Employment and Social Development Canada \(ESDC\) – Labour's](#) website.

Date: \_\_\_\_\_ (YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

- ☐ A1. The Bidder certifies having no work force in Canada.
- ☐ A2. The Bidder certifies being a public sector employer.
- ☐ A3. The Bidder certifies being a federally regulated employer being subject to the Employment Equity Act.
- ☐ A4. The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and

- ☐ A5.1. The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with ESDC-Labour.

**OR**

- ☐ A5.2. The Bidder certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

- ☐ B1. The Bidder is not a Joint Venture.

**OR**

- ☐ B2. The Bidder is a Joint venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions).

## ANNEX H DETAILED PRICE BREAKDOWN

### PART A

Section 1 Project Management IAW with SOW 3.2 (Item 1) and 4	Price
<b>Total Price</b>	<b>\$</b>

Section 2 Engineering Design Documents IAW with SOW 3.2 (Item 2) and 4.4.3	Price
Initial Design Deliverables	
Preliminary Design Deliverables	
Critical Design Deliverables	
Technical Data Package	
price must not to exceed 12.5% of the Total Price of the project	
<b>Total Price</b>	<b>\$</b>

Section 3 Price Breakdown for (18) Cranes, including software (if applicable) IAW with SOW 3.2 (Item 3) and 5				
Part Number	Description	Unit Price	QTY	Price
<b>Total Price</b>				<b>\$</b>

Section 4 Spare Parts IAW with SOW 3.2 (Item 3), 5.81 and 7.2.2	Unit Price	Quantity	Price
<i>Bidder shall provide a separate list of parts description and part number</i>			
<b>Total Price</b>			<b>\$</b>

<b>Section 5 Special Purpose Tools (SPT) IAW with SOW 3.2 (Item 5), 5.8.1 and 7.2.3</b>	<b>Unit Price</b>	<b>Quantity</b>	<b>Price</b>
IAW SOW 3.2 Item 2, 7.2.3 and 5.8.1 (8)			
<i>Bidder shall provide a separate list of SPT with description and part number, if applicable</i>			
<b>Total Price</b>			<b>\$</b>

<b>Section 6 Acceptance Testing, Plans and Procedures</b>	<b>Unit Price</b>	<b>Quantity</b>	<b>Price</b>
FAT IAW SOW 3.2 (Item 6), 6.2.1 and 6.3.1			
STW Plan and Procedures IAW SOW 3.2 (Item 7), 6.2.2 and 6.3.2			
SAT Plan and Procedures IAW SOW 3.2 (Item 8), 6.2.3 and 6.3.3			
<b>Total Price</b>			<b>\$</b>

<b>Section 7 Classification Society IAW SOW 3.2 (Item 9) and 6.4.1</b>	<b>Unit price</b>	<b>QTY</b>	<b>Price</b>
<b>Total Price</b>			<b>\$</b>

<b>Section 8 Integrated Logistics Support</b>	<b>Unit price</b>	<b>QTY</b>	<b>Price</b>
Maintenance Concept IAW SOW 3.2 (Item 10) and 7.2.1			
Cadre Training IAW SOW 3.2 (Item 11) and 7.3			
ILS Documentation IAW SOW 3.2 (Item 12) and 7.4			
Technical Documentation IAW SOW 7.5			
<b>Total Price</b>			<b>\$</b>

<b>TOTAL PRICE PART A (1+2+3+4+5+6+7+8)</b>	<b>\$</b>
---	-----------

Note: All provided prices shall be before GST or HST as applicable.

No changes shall be made to this list unless specifically requested by Canada, in which case the Design Change procedure will apply.



## PART B

Bidders must provide a price breakdown for the (14) option cranes, spare parts and special purpose tools as per Part 7, Clause 3.2 of the RFP.

For bidding purposes the option cranes shall be delivered to the following locations:

7 cranes to Canadian Forces Base Halifax NS

7 cranes to Canadian Forces Base Esquimalt BC or Esquimalt Coastal Training Facility

### Section 9 Price Breakdown for (14) option Cranes, including software (if applicable) IAW Part 7, Clause 3.2 of the RFP

Part Number	Description	Unit Price	QTY	Price
Total Price				\$

### Section 10 Spare Parts for (14) Option Cranes IAW with SOW 3.2 (Item 3), 5.81 and 7.2.2

	Unit Price	Quantity	Price
<i>Bidder shall provide a separate list of parts description and part number</i>			
Total Price			\$

### Section 11 Special Purpose Tools for (14) Option Cranes IAW with SOW 3.2 (Item 5), 5.8.1 and 7.2.3

	Unit Price	Quantity	Price
IAW SOW 3.2 Item 2, 7.2.3 and 5.8.1 (8)			
<i>Bidder shall provide a separate list of SPT with description and part number, if applicable</i>			
Total Price			\$

<b>TOTAL PRICE PART B (9+10+11)</b>	<b>\$</b>
-------------------------------------	-----------

## PART C

### Labour Rates for Financial Evaluation

Bidders must provide labour rates for Additional/Unscheduled work. The labour rates will be incorporated into the Basis of Payments.

The bidder's labour rates shall include profit, overhead, G&A fees and expenses. The labour rate will be based on the estimated hours provided in the table below. The total calculated price will be used for bid financial evaluation purposes.

Section 12 Labour Rates	Estimated Labour Hours	Labour Rate	Price
Clause 5.2.1 – Labor Rate for Additional / Unscheduled Work including Design Change, Engineering Change or change in the scope of work.	1000	\$_____/hr.	
Clause 5.2.2 – Overtime for Additional / Unscheduled Work: Time and One-Half if different than 5.2.1	450	\$_____/hr.	
Clause 5.2.3 – Overtime for Additional / Unscheduled Work: Double Time if different than 5.2.1 and 5.2.2	180	\$_____/hr.	
<b>TOTAL PRICE PART C (12)</b>			<b>\$</b>

<b>TOTAL PRICE PARTS A+B+C</b>	
--------------------------------	--

Note: All provided prices shall be in Canadian funds before GST or HST as applicable.

Solicitation No. - N° de l'invitation  
W8482-156383/B  
Client Ref. No. - N° de réf. du client  
W8482-156383

Amd. No. - N° de la modif.  
File No. - N° du dossier  
033mc.W8482-156383

Buyer ID - Id de l'acheteur  
033mc  
CCC No./N° CCC - FMS No./N° VME

---

## **ANNEX "I"**

### **SECURITY REQUIREMENTS CHECK LIST**



Government of Canada  
Gouvernement du Canada

Contract Number / Numéro du contrat

W8482-156383

Security Classification / Classification de sécurité  
Unclassified

SECURITY REQUIREMENTS CHECK LIST (SRCL)

LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE		
1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine		2. Branch or Directorate / Direction générale ou Direction ADM (Mat) / DGMEPM
3. a) Subcontract Number / Numéro du contrat de sous-traitance		3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant
4. Brief Description of Work / Brève description du travail -Procurement of 16 constant tension capable single boom articulated marine grand personnel lifting cranes with a safe working load of 15,500 lb. -Provision of field service representative to assist in the Set to work and trials -Provide coastal initial cadre training courses		
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?		<input type="checkbox"/> No Non <input checked="" type="checkbox"/> Yes Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?		<input type="checkbox"/> No Non <input checked="" type="checkbox"/> Yes Oui
6. Indicate the type of access required / Indiquer le type d'accès requis		
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> Yes Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.		<input type="checkbox"/> No Non <input checked="" type="checkbox"/> Yes Oui
6. c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?		<input checked="" type="checkbox"/> No Non <input type="checkbox"/> Yes Oui
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès		
Canada <input type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
7. b) Release restrictions / Restrictions relatives à la diffusion		
No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>	All NATO countries Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à : <input type="checkbox"/>	Restricted to: / Limité à : <input type="checkbox"/>	Restricted to: / Limité à : <input type="checkbox"/>
Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :
7. c) Level of information / Niveau d'information		
PROTECTED A PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A PROTÉGÉ A <input type="checkbox"/>
PROTECTED B PROTÉGÉ B <input type="checkbox"/>	NATO RESTRICTED NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B PROTÉGÉ B <input type="checkbox"/>
PROTECTED C PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>	NATO SECRET NATO SECRET <input type="checkbox"/>	CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>
SECRET SECRET <input type="checkbox"/>	COSMIC TOP SECRET COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET SECRET <input type="checkbox"/>
TOP SECRET TRÈS SECRET <input type="checkbox"/>		TOP SECRET TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>





Government of Canada  
Gouvernement du Canada

Contract Number / Numéro du contrat

W8482-156383

Security Classification / Classification de sécurité  
Unclassified

**PART A (continued) / PARTIE A (suite)**

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?  
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes  
Non Oui

If Yes, indicate the level of sensitivity:

Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?  
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate? ☒ No ☐ Yes  
Non Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :

Document Number / Numéro du document :

**PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)**

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

SM ☒ RELIABILITY STATUS  
COTE DE FIABILITÉ ☐ CONFIDENTIAL  
CONFIDENTIEL ☐ SECRET  
SECRET ☐ TOP SECRET  
TRÈS SECRET ☐ TOP SECRET  
TRÈS SECRET - SIGINT ☐ NATO CONFIDENTIAL  
NATO CONFIDENTIEL ☐ NATO SECRET  
NATO SECRET ☐ COSMIC TOP SECRET  
COSMIC TRÈS SECRET

SM ☐ SITE ACCESS  
ACCÈS AUX EMPLACEMENTS

Special comments:

Commentaires spéciaux : Supplier will be under escort by DND personnel at all times while on site.

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.

REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?  
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? ☐ No ☒ Yes  
Non Oui

If Yes, will unscreened personnel be escorted? *Unscreened pers. may only access*

Dans l'affirmative, le personnel en question sera-t-il escorté? *public/reception zone*

☒ No ☐ Yes  
Non Oui

**PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)**

**INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS**

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?  
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes  
Non Oui

11. b) Will the supplier be required to safeguard COMSEC information or assets?  
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC? ☒ No ☐ Yes  
Non Oui

**PRODUCTION**

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?  
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ? ☒ No ☐ Yes  
Non Oui

**INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)**

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?  
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes  
Non Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?  
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale? ☒ No ☐ Yes  
Non Oui

TBS/SCT 350-103(2004/12)

Security Classification / Classification de sécurité  
Unclassified

Canada



**PART C - (continued) / PARTIE C - (suite)**

For users completing the form manually use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.

Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form online (via the Internet), the summary chart is automatically populated by your responses to previous questions.

Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

**SUMMARY CHART / TABLEAU RÉCAPITULATIF**

Category Catégorie	PROTECTED PROTÉGÉ			CLASSIFIED CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL	SECRET	TOP SECRET	NATO RESTRICTED	NATO CONFIDENTIAL	NATO SECRET	COSMIC TOP SECRET	PROTECTED PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET
				CONFIDENTIEL		TRÈS SECRET	NATO DIFFUSION RESTREINTE	NATO CONFIDENTIEL				A	B	C	CONFIDENTIEL	
Information / Assets Renseignements / Biens Production																
IT Media / Support TI																
IT Link / Lien électronique																

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?

La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☒ No  
Non

☐ Yes  
Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".

Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?

La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

☒ No  
Non

☐ Yes  
Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).

Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).





Government of Canada  
Gouvernement du Canada

Contract Number / Numéro du contrat

W8482-156383

Security Classification / Classification de sécurité  
Unclassified

**PART D - AUTHORIZATION / PARTIE D - AUTORISATION**

**13. Organization Project Authority / Chargé de projet de l'organisme**

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

Victor Murphy

DNPS 6-3

Telephone No. - N° de téléphone  
819-939-3445

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel  
victor.murphy@forces.gc.ca

Date  
11 May 2015

**14. Organization Security Authority / Responsable de la sécurité de l'organisme**

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

**Sasa Medjovic - DDSO - Industrial Security  
Senior Security Analyst**

Telephone No. - N° de téléphone

613-996-0286

E-mail address - Adresse courriel

**E-mail: sasa.medjovic@forces.gc.ca**

Date

**05-05-2015**

**15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?**

Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?

☐ No  
Non

☒ Yes  
Oui

**16. Procurement Officer / Agent d'approvisionnement**

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date

**17. Contracting Security Authority / Autorité contractante en matière de sécurité**

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

**Jacques Saumur**

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date

**29-JUNE-2015**

Jacques Saumur

Contract Security Officer, Contract Security Division

Jacques.Saumur@tpsgc-pwgsc.gc.ca

Tel/Tél - 613-948-1732 / Fax/Téléc - 613-954-4171

Solicitation No. - N° de l'invitation  
W8482-156383/B  
Client Ref. No. - N° de réf. du client  
W8482-156383

Amd. No. - N° de la modif.  
File No. - N° du dossier  
033mc.W8482-156383

Buyer ID - Id de l'acheteur  
033mc  
CCC No./N° CCC - FMS No./N° VME

---

**ANNEX J**  
**BIDDER QUESTIONS AND CANADA RESPONSES**

Completed and updated during the solicitation process.



## ANNEX K

### MANDATORY TECHNICAL EVALUATION CRITERIA

The Phased Bid Compliance Process will apply only to mandatory technical criteria identified by the superscript <sup>(PB)</sup>. Mandatory technical criteria not identified by the superscript <sup>(PB)</sup> will not be subject to the Phased Bid Compliance Process.

Item #	Criteria	Compliant		Reference to applicable page and paragraph of Proposal
		Yes	No	
M1	<p>The Bidder must demonstrate that they have designed and built three (3) different offshore electro-hydraulic knuckle boom crane system in the past ten (10) years.</p> <p>The bidder must detail when and where the cranes were installed, who the customer was, general scope of the project, crane lifting curves, and Safe Working Load.</p>			
M2 <sup>PB</sup>	<p>The Bidder must demonstrate that they have experience designing, building, and commissioning at least one (1) Class Society certified, personnel lifting, offshore electro-hydraulic knuckle boom crane of no less than 75% of the Safe Working Load of 7030 kg at a radius of 5 metres or greater in the past ten (10) years.</p> <p>The bidder must detail when and where the crane was installed, who the customer was, general scope of the project, crane lifting curves, and Safe Working Load, and Class certifications.</p>			
M3 <sup>PB</sup>	<p>The Bidder must demonstrate that they have manufactured an offshore electro-hydraulic knuckle boom crane of maximum stowed dimensions of no more than:</p> <ol style="list-style-type: none"> <li>1. Height – 3.2 metres,</li> <li>2. Longitudinal Length – 3.2 metres, and</li> <li>3. Transverse Width – 2.1 metres</li> <li>4. Maximum Pedestal Base Diameter – 1.2 metres.</li> </ol> <p>A compliant crane must be:</p> <ol style="list-style-type: none"> <li>1. An offshore electro-hydraulic knuckle boom crane.</li> <li>2. Capable of lifting no less than 75% of a Safe Working Load of 7030 kg at a radius of 5 metres or greater.</li> </ol>			

Item #	Criteria	Compliant		Reference to applicable page and paragraph of Proposal
	The bidder must detail when and where the cranes were installed, who the customer was, Safe Working Load, General Arrangement drawings and plan and profile sections views.			
M4 <sup>PB</sup>	<p>The Bidder must demonstrate that they have manufactured an offshore electro-hydraulic knuckle boom crane capable of lifting no less than 75% of a Safe Personnel Lifting Load of 7030 kg at a radius of no less than 5 metres.</p> <p>The bidder must detail when and where the crane were installed, who the customer was, general scope of the project, crane lifting curves, and Safe Personnel Lifting Load.</p>			
M5	<p>The Bidder must submit the following;</p> <ol style="list-style-type: none"> <li>1. Description of management organization, communications process and points of contact, and the bidder's project management team and their responsibilities.</li> <li>2. A project Work Break Down Structure</li> <li>3. A project master schedule with milestones including: <ol style="list-style-type: none"> <li>a. Project meetings</li> <li>b. Conclusions of design phases</li> <li>c. Crane delivery dates (Accurate to a week, inclusive of contract option)</li> <li>d. FATs</li> <li>e. Project data deliverables dates</li> </ol> </li> </ol>			
M6	The Bidder must provide one (1) offshore electro-hydraulic knuckle boom crane English Operations Manual developed for a previous crane contract within the last three (3) years.			
M7	The Bidder must provide one (1) offshore electro-hydraulic knuckle boom crane English Maintenance Manual developed for a previous crane contract with in the last three (3) years.			

Item #	Criteria	Compliant		Reference to applicable page and paragraph of Proposal
M8	<p>The Bidder must demonstrate that a Quality Management system is in place, such as ISO 9001:2005, and that quality plans have been developed in accordance with ISO 10005:2005. Bidder must also provide the following:</p> <ol style="list-style-type: none"><li>1. A valid ISO 9001:2005 certification if registered, or equivalent; and</li><li>2. An example of a Quality Control Plan (QCP) as applied on previous projects for designing, manufacturing, and commissioning of a similarly complex crane.</li></ol> <p>A similarly complex crane must be:</p> <ol style="list-style-type: none"><li>1. An offshore electro-hydraulic knuckle boom crane.</li></ol>			

**ANNEX L**  
**POINT RATED TECHNICAL EVALUATION CRITERIA**

Item #	Criteria	Point Breakdown	Reference to applicable page and paragraph of Proposal
R1	<p>The Bidder will be evaluated and awarded points for their compliant crane project experience over the last ten (10) years.</p> <p>A compliant crane project is a single contracted project which has delivered one or more personnel lifting cranes and which includes the design, build, and commissioning of:</p> <ol style="list-style-type: none"> <li>1. An offshore electro-hydraulic knuckle boom crane.</li> <li>2. No less than 75% of a Safe Working Load of 7030 kg at a radius of 5 metres or greater.</li> </ol> <p>The bidder must detail when and where the cranes were installed, who the customer was, general scope of the project, crane lifting curves, and Safe Personnel Lifting Load.</p>	<p>1 to 2 crane projects = 5 points</p> <p>3 to 4 crane projects = 10 points</p> <p>5 to 6 crane projects = 15 points</p> <p>7 plus crane projects = 17 points</p> <p><u>Maximum Points = 17</u></p>	
R2	<p>The Bidder will be evaluated and awarded points for the weight of an existing compliant crane.</p> <p>A compliant crane must be:</p> <ol style="list-style-type: none"> <li>1. An offshore electro-hydraulic knuckle boom crane.</li> <li>2. No less than 75% of a Safe Working Load of 7030 kg at a radius of 5 metres or greater.</li> </ol> <p>The bidder must detail when and where the crane was installed, who the customer was, general scope of the project, crane lifting curves, and Safe Personnel Lifting Load, and crane weight. The weight of the crane does not include remote HPU.</p>	<p>weight between 11001kg and 12000kg = 1 point</p> <p>weight between 10001kg and 11000kg = 5 points</p> <p>weight between 9001kg and 10000kg = 10 points</p> <p>weight between 8001kg and 9000kg = 15 points</p> <p>weight less than 8000kg = 20 points</p> <p><u>Maximum Points = 20</u></p>	
R3	<p>The Bidder will be evaluated and awarded points for crane production rates.</p> <p>The Bidder must provide evidence of crane production rates on a previous contract within the</p>	<p>5 or below cranes per year = 1 point</p> <p>6 to 8 cranes per year = 10 points</p>	

Item #	Criteria	Point Breakdown	Reference to applicable page and paragraph of Proposal
	<p>last ten (10) years within one consecutive 365 day period.</p> <p>Evidence must include supporting documentation which clearly highlights the following information:</p> <ol style="list-style-type: none"> <li>1. Construction Start Date</li> <li>2. Construction End Date</li> <li>3. Number of Cranes constructed per contract</li> <li>4. Number of Cranes constructed per year</li> <li>5. Construction time per crane</li> </ol>	<p>9 to 10 plus cranes per year = 20 points</p> <p><u>Maximum Points = 20</u></p>	
R4	<p>The Bidder will be evaluated and awarded points for their experience in gaining shock certification for an existing compliant crane to either MIL-DTL-901E or CFTO D03-003-007/SG-000 in the past 10 years.</p> <p>A compliant crane must be:</p> <ol style="list-style-type: none"> <li>1. An offshore electro-hydraulic knuckle boom crane.</li> <li>2. No less than 75% of a Safe Working Load of 7030 kg at a radius of 5 metres or greater.</li> </ol> <p>The bidder must detail when and where the cranes were installed, who the customer was, Safe Personnel Lifting Load, and Shock certifications.</p>	<p>1 crane model = 10 points</p> <p>2 crane models = 20 points</p> <p>3 plus crane models = 30 points</p> <p><u>Maximum Points = 30</u></p>	
R5	<p>The Bidder will be evaluated and awarded points for the experience in gaining a Class Society certification for an existing compliant crane in the past 10 years.</p> <p>A compliant crane must be:</p> <ol style="list-style-type: none"> <li>1. An offshore electro-hydraulic knuckle boom crane.</li> </ol> <p>The bidder must detail when and where the crane was installed, who the customer was, Safe Working Load, and LAME certifications.</p>	<p>1 point per crane model</p> <p><u>Maximum Points = 20</u></p>	
<b>TOTAL AVAILABLE POINTS</b>		<b>107</b>	