



**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

| | | |
|---|--|--|
| Title - Sujet Halifax Class Marine Cranes | | |
| Solicitation No. - N° de l'invitation W8482-156383/A | | Date 2017-06-13 |
| Client Reference No. - N° de référence du client W8482-156383 | | |
| GETS Reference No. - N° de référence de SEAG PW-\$\$MC-033-26349 | | |
| File No. - N° de dossier 033mc.W8482-156383 | CCC No./N° CCC - FMS No./N° VME | |
| Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-07-25 | | Time Zone Fuseau horaire Eastern Daylight Saving Time EDT |
| F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/> | | |
| Address Enquiries to: - Adresser toutes questions à: Davies, Neil | | Buyer Id - Id de l'acheteur 033mc |
| Telephone No. - N° de téléphone (819) 420-0865 () | | FAX No. - N° de FAX () - |
| Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes | | |

Instructions: See Herein

Instructions: Voir aux présentes

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

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

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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, the Detailed Prices Breakdown, the Procedure for Processing Additional/Unscheduled Work, the Insurance Requirements, the Federal Contractors Program for Employment Equity - Certification, the Financial Bid Presentation Sheet, the Mandatory Technical Criteria and any other annexes.

1.2 Summary

The Royal Canadian Navy (RCN) has a requirement to procure sixteen (16) new Class approved Electro Hydraulic 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.

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 Agreement on Internal Trade (AIT).

1.3 Delivery Schedule

The Bidder must complete the Annex "C" Delivery Schedule and propose a delivery schedule that meets Canada's following delivery requirements.

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 st Crane with Spare Parts and Special Purpose Tools | CA + 365 Days |
| 13 | Delivery of all sixteen (16) 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 |

- 1.3.1 For bidding purpose only, it is estimated that the duration of the bid evaluation will take about one (1) month following bid closing.

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1.4 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 (2016-04-04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

A7035T List of Subcontractors
B100T 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 Former Public Servants – Competitive Bid

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

Definitions

For the purposes of this clause, "former public servant" is any former member of a department as defined in the Financial Administration Act, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the Public Service Superannuation Act (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the Supplementary Retirement Benefits Act, R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the Canadian Forces Superannuation Act, R.S., 1985, c. C-17, the Defence Services Pension Continuation Act, 1970, c. D-3, the Royal Canadian Mounted Police Pension Continuation Act, 1970, c. R-10, and the Royal Canadian Mounted Police Superannuation Act, R.S., 1985, c. R-11, the Members of Parliament

Retiring Allowances Act, R.S. 1985, c. M-5, and that portion of pension payable to the Canada Pension Plan Act, R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes** () **No** ()

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes** () **No** ()

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks; and
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

2.4 Enquiries - Bid Solicitation

All enquiries must be submitted in writing by email to the Contracting Authority no later than seven (7) calendar days before the bid closing date at the following address: 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.

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2.5 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) It is the sole responsibility of Bidder to provide sufficient information to adequately assess its Bid. Where the information is lacking in both versions, then Canada will NOT request or allow the subsequent submission of additional information.
- (e) Soft copies of the Bid shall be delivered in MS Word format.
- (f) 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:

- 1) 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
 - 2) 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.
- (g) Signature of the Bid:
- 1. Canada requires that each Bid be signed by the Bidder or by an authorized representative of the Bidder. Bid should be properly signed when submitted at bid closing. However, where Canada determines that the Bidder has omitted to sign the Bid as required, Canada will provide the Bidder with 24 hours to submit a proper signature page;
 - 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.

(h) 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.

- (i) 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.

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 mandatory include:

- (a) A Statement of Compliance to the SOW in a requirement matrix format as per example provided by the Annex "K"; and
- (b) A duly completed Annex "C" Delivery Schedule; and
- (c) A duly completed Annex "J" Mandatory Technical Criteria. Bidders must demonstrate how they meet each Mandatory Technical Criteria of the RFP, including provision of design drawings, other drawings, calculations and materials specified there.

Volume II:

Section II: Financial Bid

Bidders must submit their financial bid in accordance with Annex "D" Detailed Prices Breakdown and Annex "H" Financial Bid Presentation Sheet. 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" Detailed Prices Breakdown; and
- (d) Duly completed **and signed** Annex "H" Financial Bid Presentation Sheet.

3.3 Exchange Rate Fluctuation

The requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All bids including such provision will render the bid non-responsive.

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.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

The Mandatory Technical Evaluation Criteria are listed in the Annex "J".

4.1.2 Financial Evaluation

4.1.2.1 Mandatory Financial Criteria

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

- 4.2.1** A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract. The lowest evaluated price will be accordance with Annex H Financial Bid Presentation Sheet, section 1 only.

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 Ineligibility and Suspension Policy, <https://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng>, the Bidder must provide with its bid the required documentation, as applicable, 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 Ineligibility and Suspension Policy (<https://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).

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.

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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

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).

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.

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 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 Conduct of the Work

1. This section applies despite any other provision of the Contract and adds to the section of the general conditions entitled "Conduct of the Work".
2. The Contractor represents and warrants that it has the experience, qualifications, personnel, equipment, facilities and all other resources to perform the Work.
3. In the performance of the Work, the Contractor shall supply, other than Government Supplied Material (GSM), all the resources, facilities, labour, management, services, equipment, materials, drawings, tools technical data, technical assistance, engineering services and planning necessary to complete the Work.
4. The Contractor agrees to:
 - (a) commence and carry out the Work promptly and diligently and upon the terms and conditions and in the manner contemplated by this Contract;
 - (b) carry out the Work in accordance with good, modern shipbuilding practices;
 - (c) provide efficient and effective supervision and inspection of the carrying out of the Work; and
 - (d) provide material and workmanship of the highest quality commensurate with the nature of the work and take all such steps as are necessary to ensure that the Work is completed according to the Contract.
5. No material or parts shall be used or processed and no finished Work shall be submitted for acceptance or delivery unless approved by the Technical Authority. The Contractor shall complete the Work to the satisfaction of Technical Authority and fully in accordance with the Contract and deliver all of the Work as required by the Contract.
6. The Contractor shall submit for examination by the Technical Authority any designs, drawings, models, completed or under preparation by it or its behalf in connection with the Work in accordance with the Contract.
7. The Contractor shall provide such reports on the performance of the Work as are required by the Contract and such other reports as may be reasonably required by the Contracting Authority and the Technical Authority.

8. The Contractor shall provide the services required under the Contract. In case of failure by the Contractor to provide any of the described services in the Contract, Canada may suspend payment until such failure has been corrected to the satisfaction of Canada.

1.2 Design Documents

1. The Design Documents, Initial, Preliminary and Critical and Technical Data Package, shall be completed and design packages 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 Contract Dispute Resolution clause.

1.3 Production Schedule

1. The Production Schedule shall be in accordance with the 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 him of its contractual responsibility and the same applies to the subcontracts issued by the Contractor to the subcontractor.

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 as the Contractor may wish to use them but are not evidence of any interpretation to be given to the Contract requirements. Any such 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 process according to the 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. This section applies despite any other provision of the Contract and adds to the section of the general conditions entitled " Inspection and Acceptance of the Work "
2. All reports, deliverables, documents, goods and all services rendered under this Contract shall be subject to inspection by the Technical Authority. Should any report, document, good or service not be in accordance with the requirements of the Contract, the Technical Authority shall have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment. Any communication with a Contractor regarding the quality of Work performed pursuant to this Contract shall be undertaken by official correspondence through the Contracting Authority.
3. The Contractor shall be responsible for properly setting up, preparing, providing access to and presenting Work for inspection and for giving adequate notice to the Technical Authority and the Regulatory Body that the Work is complete, and having been pre-tested or inspected, is ready for the inspection.
4. Inspection will be done by the Technical Authority at the most appropriate location:
 - (a) During the Crane Design, manufacturing and factory acceptance, at 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.
5. Inspection requirements shall be in accordance with the provisions of this Contract including 2030 (2016 04 04), General Conditions - Higher Complexity - Goods, and the following 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 (2016-04-04) General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

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

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

"For the purpose of the Warranty only, the Acceptance of the Work 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 two (2) spare cranes shall take place upon delivery to the designated facility.

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 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 the Basis of Payments.
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 sixteenth (16th) crane. The option(s) may only be exercised by the Contracting Authority, and will evidenced for administrative purposes only through a contract amendment.

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 |
|---|--|
| 8 (7 ship cranes and 1 spare crane) | Canadian Forces Base Halifax Formation Commander HMC Dockyard Main Supply Building Bldg D-206 Door 1 to 13 Halifax, NS Canada B3K 5X5 |
| 1 | Canadian Forces Base Halifax Coastal Training Facility Naval Fleet School Building S9 Halifax, NS Canada B3K 5X5 |
| 6 (5 ships cranes and 1 spare crane) | Canadian Forces Base Esquimalt Base Commander Building 66 Colwood Victoria BC Canada V9A 7N2 |
| 1 | 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 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a Public Service Superannuation Act (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

6 Payment

6.1 Basis of Payment – Firm Prices

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, including any options, the Contractor will be paid the firm prices, as specified in Annex "H" Financial Bid Presentation Sheet 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.

6.2 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 "H" Financial Bid Presentation Sheet;
 - (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 and inclusive of all fringe benefits, overhead and profit.
2. The Overtime Rate (1½) shall be as specified in Annex "H" Financial Bid Presentation Sheet 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 with fringe benefits, overhead and profit applicable to that portion only.
3. The Double Overtime Rate (2X) shall be as specified in Annex "H" Financial Bid Presentation Sheet 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 with fringe benefits, overhead and profit applicable to that portion only.

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

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".

All travel must have the prior authorization of the Technical or Contracting Authority.

All payments are subject to government audit.

6.3 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.

6.4 Discretionary Audit for Additional / Unscheduled Work Only

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

6.5 Time Verification for Additional / Unscheduled Work Only

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

6.6 Limitation of Price

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

7 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.

8 Certifications and Additional Information

8.1 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.

8.2 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.

9 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.)

10 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 C, Delivery Schedule;
- (h) Annex D, Detailed Prices Breakdown;
- (i) Annex I, Security Requirement Check List
- (j) Annex E, Procedure for Processing Additional / Unscheduled Work;
- (k) Annex F, Insurance Requirements
- (l) Annex G, Federal Contractors Program for Employment Equity - Certification;
- (m) Annex H, Financial Bid Presentation Sheet; 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: "*, as clarified on _____ *" or "*, as amended on _____ *" and insert date(s) of clarification(s) or amendment(s).*

11 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)

12. 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*.

13 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".

14 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.

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

- 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), and (c) 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.

16 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 prior to seeking redress through court procedures:

- (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.

17 Failure to Deliver

Time is of the essence of the Contract. Changes in the Completion date not caused by Canada are Contractor defaults, will prejudice Canada and are at the Contractor's expense. The Completion date will not be extended without consideration being provided by the Contractor acceptable to Canada in the form of adjustment to the price, warranty or services to be provided.

18 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 |
| B4060C | (2011-05-16), Controlled Goods |
| 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 REPLACEMENT CRANES FOR THE ROYAL CANADIAN NAVY (RCN) HALIFAX CLASS SHIPS

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

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Gatineau, QC

| | | | | |
|--------------|---------------------------|-----|----------|---------------|
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1 Scope

1.1 Purpose

This Statement of Work (SOW) defines the technical and performance requirements for sixteen (16) new Lloyds Register (LR) approved Electro Hydraulic 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 sixteen (16) 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 two 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 crane with its TDP 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 LR Rules and 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 Boom¹ (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. 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 launch and

¹ 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.

| | | | | |
|--------------|---------------------------|-----|----------|---------------|
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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 two (2) year period.

1.3 Objectives of the Crane Procurement

The fundamental objectives of the crane procurement are to:

1. Acquire 16 versatile, LR 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 LR, the LAME 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 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) Use the vessel's existing electrical power supplies;
 - b) Use to the greatest extent the vessel's existing mechanical components and available structure; and
 - c) Fit inside the space envelope defined in this SOW.

1.4 Acronyms and Abbreviations

| Acronyms or Abbreviations | Definition |
|---------------------------|---------------------------------------|
| AIL | Action Item List |
| ANSI | American National Standards Institute |
| AR | As Required by Class |
| c/w | Complete with |

| Acronyms or Abbreviations | Definition |
|---------------------------|---|
| 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 |
| LR | Lloyds Rules (Classification Society) |
| LNR | Lloyds Naval Rules |

| Acronyms or Abbreviations | Definition |
|---------------------------|---|
| 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

| | | | | |
|---------------|---------------------------|-----|----------|---------------|
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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 |
|--|---|----------|
| Lloyd's Register Rules and Regulations for the Classification of Naval Ships | 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, Lloyd's Register's Rules for the Manufacture, Testing and Certification of Materials | |
| CSA W47.1 1983 | Canadian Welding Bureau Standards for the fusion welding of steel | |
| CSA W47.2-M1987(R1998) | Canadian Welding Bureau Standard for the fusion welding of aluminum and aluminum alloys | |
| 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 | |

| Standard or Regulation | Title | Comments |
|------------------------------|--|--|
| 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 Convention | |
| 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 | |

| Standard or Regulation | Title | Comments |
|------------------------|--|---|
| | 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 sixteen (16), with an option to purchase an additional fourteen (14), LR certified and approved cranes, complete with:
 - a) Detailed plans and procedures for
 - i. STW
 - ii. Commissioning
 - iii. Test and trials
 - b) Associated ancillary equipment
 - c) TDP.
2. Develop and deliver LR certified and approved crane and vessel 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.
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

| | | | | |
|---------------|------------------------------|-----|----------|---------------|
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| 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 | Error ! Reference source not found. | 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 5. Technical Bid Package | 3.4 Error ! Reference source not found. | 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 8.3.2.5 CDRL-EN-05 | 8.4.2.1 8.4.2.2 8.4.2.3 8.4.2.4 8.4.2.5 |
| 3 | 16 each | Electro Hydraulic 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. One (1) crane delivered to a storage facility in Halifax NS. One (1) crane delivered to a storage facility in Esquimalt BC. | 5 | n/a | n/a |
| 4 | 16 sets | Spare Parts. One (1) set of spare parts for each crane. | 5.8.1 7.2.2 | n/a | n/a |

| Item | Qty. | Description | SOW Ref. | CDRL Ref. | DID Ref. |
|------|-------------|--|--|--|--------------------|
| 5 | 16 sets | Special Purpose Tools (SPT). (1) Set of SPTs for each crane for the maintenance and overhaul of the crane and its related equipment and components. | 5.8.1 7.2.3 | n/a | n/a |
| 6 | 16 each | Factory Acceptance Tests (FAT) | Error ! Reference source not found . 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 | Error ! Reference source not found . 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 LR | Error ! Reference source not found . | n/a | n/a |

| Item | Qty. | Description | SOW Ref. | CDRL Ref. | DID Ref. |
|------|--------|---------------------|---|---------------------|----------|
| 10 | 1 each | Maintenance Concept | Error ! Reference source not found . | 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 | Error ! Reference source not found . | 8.3.4.3 CDRL-LOG-03 | 8.4.4.3 |

Table 3-1.

| 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 | Error ! Reference source not found. | 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 5. Technical Bid Package | 3.4 Error ! Reference source not found. | 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 8.3.2.5 CDRL-EN-05 | 8.4.2.1 8.4.2.2 8.4.2.3 8.4.2.4 8.4.2.5 |
| 3 | 16 each | Electro Hydraulic 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. One (1) crane delivered to a storage facility in Halifax NS. One (1) crane delivered to a storage facility in Esquimalt BC. | 5 | n/a | n/a |
| 4 | 16 sets | Spare Parts. One (1) set of spare parts for each crane. | 5.8.1 7.2.2 | n/a | n/a |

| Item | Qty. | Description | SOW Ref. | CDRL Ref. | DID Ref. |
|------|-------------|--|--|--|--------------------|
| 5 | 16 sets | Special Purpose Tools (SPT). (1) Set of SPTs for each crane for the maintenance and overhaul of the crane and its related equipment and components. | 5.8.1 7.2.3 | n/a | n/a |
| 6 | 16 each | Factory Acceptance Tests (FAT) | Error ! Reference source not found . 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 | Error ! Reference source not found . 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 LR | Error ! Reference source not found . | n/a | n/a |

| Item | Qty. | Description | SOW Ref. | CDRL Ref. | DID Ref. |
|------|--------|---------------------|--|---------------------|----------|
| 10 | 1 each | Maintenance Concept | Error ! Reference source not found. | 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 | Error ! Reference source not found. | 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.

3.4 Vendor Data Requirements for RFP Response (Technical Bid Package (TBP))

The vendor is to supply a TBP IAW CDRL-EN-05and DID-EN-05. The TBP will define the necessary details for DND assigned representative to evaluate the engineering and operational feasibility of the crane IAW LAME regulations and performance requirements.

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 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.

| | | | | |
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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.

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.

| | | | | |
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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.

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
2. Safely lift personnel
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 requirements in Table 5-1 (note that the SWL is the minimum)
2. The crane must meet the LAME standard, including but not limited to the following topics:
 - b) Offshore lifting of personnel
 - c) 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
 - d) The heel and trim requirements being in excess of the standard service category.
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 all relevant LAME regulations with personnel onboard and frequent usage, see Table 5-3.

| | | | | |
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- c) Launch and recovery an RCN RHIB at SS5, in compliances with all relevant LAME regulations, lifting the maximum number of personnel within the range of 1 to 12 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) | 12 | people |
| Maximum Weight Lifted in RHIB Operations (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 (kg) | Load Type | Usage Frequency (LAR cycles) |
|-----------|--------------------|----------|----------------------|------------------------------|
| Up to 2 | 8 | 7030 | Personnel | 5 per day |
| 3 | 6 | 7030 | Personnel | 1 per week |
| Up to 5 | 6 | 6200 | Cargo | 1 per month |
| Up to 5 | 6 | 6200 | Emergency Personnel | 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 in stowage and some of the 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 |

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 that must also comply with the Grade 1A DND shock requirements. The Contractor must conduct shock qualification for appendages by either:

1. Qualification by extension, whereby the appendage 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 it is offered that the shock test be may be conducted at Naval Engineering Test Establishment. If this

option is chosen the Contractor will contact the TA as soon as possible for instructions on the shock pulse to be used for 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 location and mounting of the crane will meet the following parameters.

1. 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.
2. 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.
3. The crane must be deck mounted on ships deck frame work
4. 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
5. 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;
6. 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;
7. 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
8. 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.

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.

5.3 Crane Electrical and Control Requirements

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

| | | | | |
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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.

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

| | | | | |
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- 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;
 - 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) The rated speeds listed in this SOW must be met.
 - c) 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
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

Mechanical 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:

| | | | | |
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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

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 LR LAME (personnel lifting) STANAG 4194 |
| 3 | Sea State – Cargo and Emergency | All components operational at SS5 | Info, to be used to determine LR |

| | | | |
|----|------------------------------------|---|---|
| | Rescue Operations | | Requirements LAME (non - 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 ² and operate with ice loading of 22 kg/m ² 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 Machines part 32 Requirement for Hoisting machines Crane Hydraulics must also be protected from water ingress IAW C-03-011-004/MS-001 | IEC 60204-32 Electrical Equipment for Machines part 32 Requirement for Hoisting machines C-03-011-004/MS-001 |
| 8 | Roll | Crane must be operational with Roll +/- 20° each side. | |
| 9 | Pitch | Crane must be operational with Pitch +/- 10° | |
| 10 | Trim | Crane must be operational with Trim forward or aft 10°. | |
| 11 | Heel | Crane must be operational with Heel +/- 20° each side. | |
| 12 | Vibrations | Crane must meet environmentally induced | MIL-STD-167-1A. |

| | | | |
|----|------------------------------|---|-------------|
| | | vibrations standards. | |
| 13 | Accelerations - Longitudinal | <p>A frame 27 6.63m of CL the accelerations in Longitudinal are 0.21 m/s² at SS3</p> <p>A frame 27 6.63m of CL the accelerations in Longitudinal are 0.75 m/s² at SS5</p> <p>A frame 27 6.63m of CL the accelerations in Longitudinal are 1.80 m/s² at SS9²</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/s² at SS3</p> <p>A frame 27 6.63m of CL the accelerations in Transverse are 5.14 m/s² at SS5</p> <p>A frame 27 6.63m of CL the accelerations in Transverse are 3.48 m/s² at SS9²</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 |
| 15 | Accelerations - Vertical | <p>A frame 27 6.63m of CL the accelerations in Vertical are 2.16 m/s² at SS3</p> <p>A frame 27 6.63m of CL the accelerations in Vertical are 6.63 m/s² at SS5</p> <p>A frame 27 6.63m of CL the accelerations in Vertical are 7.54 m/s² at SS9²</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 ² | Wind Speed | The SS9 wind speed specific to the HLX class is not less than 75 kn ² . | 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:

- 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.
- Apply one coat of AkzoNobel International Intershield 300HS at 125-150 microns, aluminum colour.
- Apply one stripe coat of AkzoNobel International Intershield 300HS to all corners, seams and welds, bronze colour.
- Apply one coat of AkzoNobel International Intershield 300HS at 125-150 microns, bronze colour.
- Apply one coat of AkzoNobel International Interfine 979SG at 125 microns. Colour shall be 26480 as per Federal Standard 595C
- Non accessible and enclosed internal boom surfaces/ areas shall be cleaned, (blasted, acid bath, etc.) and coated with a corrosion preventive product.
- All preparations and each coat of paint shall be checked and recorded by a NACE CIP Level 2 Certified Inspector.

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

² Please refer to Line 16 in Table 5-8 when considering SS9

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;
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

| | | | | |
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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. As such there must be at least twenty five (25) cranes installed in a naval and/or merchant marine service, each crane attaining 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.

6 Acceptance Testing

6.1 Coordination with the Inspections and Tests Plan

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. 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).

6.2 Crane and Vessel's Installation Packages 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.

| | | | | |
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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.

| | | | | |
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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 LR all appropriate and applicable certifications to build, operate, and maintained 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 LR 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.

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 and at Canadian Forces Fleet School Esquimalt BC and Canadian Forces Fleet School Halifax NS.

The Contractor must use the crane and the SPT 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

| | | | | |
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format must be provided with each disk. A printed copy of the Readme file must accompany each disk.

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 |
| CDRL-EN-05 | DID-EN-05 | TBP | A | RFP Due Date | 3.2, 3.4 |

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

8.3.2.5 CDRL-EN-05

| | | |
|----|-------------------------------|---|
| 1 | Sequence Number | EN-05 |
| 2 | Title or Description of Data | TBP |
| 3 | Data Item Description of Data | DID-EN-05 |
| 4 | Reference | SOW 3.2 and 3.4 |
| 5 | First Submission | RFP Due Date |
| 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 IAW Bid Submission Requirements |

Table 8-14: CDRL – EN-05

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 8-15: 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 8-16: 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 8-17: 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 8-18: 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 8-19: 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 8-20: 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 8-21: 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: | | | |
| <ol style="list-style-type: none"> 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 8-22: 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"> 1. Purpose of the meeting; 2. List of expected attendees; 3. Time, date, location and expected duration of the meeting; 4. Facilities and equipment to be provided for attending personnel; 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 6. Adequate copies of the current AIL where appropriate. | | | |

Table 8-23: 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"> 1. Date and location of meeting; 2. Name, organization, phone number, e-mail address and title of each person that attended the meeting; 3. Statement relating to the purpose and/or objective of the meeting; and 4. The original agenda and any revisions to the agenda - this may be accomplished by reference to attachments or enclosures. | | |
| 10.2 | Minutes should include a record of each item discussed or reviewed during the meeting, including: | | |
| | <ol style="list-style-type: none"> 1. A brief statement identifying the item or problem and their status; 2. A summary of pertinent information associated with the item; 3. A recommendation; 4. An action item - identifying the person or organization responsible for taking and/or co-ordinating required action with key dates; and 5. An updated Action Item List (AIL) with all open and closed items. | | |
| 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 8-24: 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"> 1. A narrative report providing sufficient detail to enable the Contracting and the Technical Authorities to evaluate the progress of the work to date; 2. Risk management activities. Significant problems or concerns encountered together with recommended course of action; 3. Schedules status, schedule changes and planned activities for the next reporting period; 4. A summary of any issues for meeting requirements / specifications; 5. Running summary of hardware, software and system observations and problems that have been opened, are in progress or have been resolved; and 6. Subset of Action Item List containing all open action items. | | | |

Table 8-25: 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"> a) Meeting agenda b) Overview of the project management plan c) Critical path activities d) Technical specifications | | | |

Table 8-26: 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 The following document must be provided to, but not be limited to, the Initial Design Review meeting:

All data to prove that the Contractors proposed solution meets all the technical and logistic requirements of the SOW.

Draft documents to include but are not limited too:

1. Draft Electrical schematics / design for the crane;
2. Draft Electrical hardware for the crane;
3. Draft Software architecture / design diagram and description
4. Draft Structural drawings / design for the crane
5. Draft Mechanical drawings / design for the crane
6. Draft Mechanical hardware for the crane
7. Draft Hydraulic drawings / design for the crane
8. Draft Hydraulic hardware for the crane
9. Draft Control System Descriptions, including all Safety Systems
10. Draft Crane Load Diagram, which must include but is not limited to, ultimate load, SWL and working load limit.
11. Draft Installation Information
 - Must include design installation criteria and installation recommendations for the completion of a final design installation specification by DND.
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)
13. Listing of the Classification Society Certifications and Approvals required.
14. Draft Crane design load, moment and force calculations of the new crane
 - Design load, moment and force calculations associated with the crane, that comply to LR (LAME) requirements and to enable calculation of structural strength requirements to allow for full design operational loading and consequent structural support design
15. Draft Integrated Logistics Support (ILS) documentation
 - 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)
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
17. Draft New crane pedestal adaptor, if applicable
18. Interface power supply requirements for the new crane and associated equipment
19. Draft Crane Integrated Communication System (ICS) interface requirements;
20. Draft Crane Alarm and Monitoring System (AMS) interface requirements and
21. Draft Crane and associated equipment General Arrangement and layout drawings

- | | |
|------|---|
| 10.2 | <ol style="list-style-type: none">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.2. Prepare Initial Design Documents in the Contractors format.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.4. Utilize a provided drawing number sequence and subject headers as this specification will be tendered as part of a larger specification package |
|------|---|

Table 8-27: 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 LAME 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 The following document must be provided to, but not be limited to, the Preliminary Design Review meeting:

All data to prove that the Contractors proposed solution meets all the technical and logistic requirements of the SOW.

Draft documents to include but are not limited to:

1. Draft Electrical schematics / design for the crane;
2. Draft Electrical hardware for the crane;
3. Draft Software architecture / design diagram and description
4. Draft Structural drawings / design for the crane
5. Draft Mechanical drawings / design for the crane
6. Draft Mechanical hardware for the crane
7. Draft Hydraulic drawings / design for the crane
8. Draft Hydraulic hardware for the crane
9. Draft Control System Descriptions, including all Safety Systems
10. Draft Crane Load Diagram, which must include but is not limited to, ultimate load, SWL and working load limit.
11. Draft Details of a Failure Modes and Effect Analysis (FMEA) for the crane
12. Draft Installation Information
 - Must include design installation criteria and installation recommendations for the completion of a final design installation specification by DND.
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)
14. Listing of the Classification Society Certifications and Approvals required.
15. Draft Crane design load, moment and force calculations of the new crane
 - Design load, moment and force calculations associated with the crane, that comply to LR (LAME) requirements and to enable calculation of structural strength requirements to allow for full design operational loading and consequent structural support design
16. Draft Integrated Logistics Support (ILS) documentation
 - 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)
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
18. Draft New crane pedestal adaptor, if applicable
19. Interface power supply requirements for the new crane and associated equipment
20. Draft Crane Integrated Communication System (ICS) interface requirements;
21. Draft Crane Alarm and Monitoring System (AMS) interface requirements and
22. Draft Crane and associated equipment General Arrangement and layout drawings

- | | |
|------|---|
| 10.2 | <ol style="list-style-type: none">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.2. Prepare Preliminary Design Documents in the Contractors format.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.4. Utilize a provided drawing number sequence and subject headers as this specification will be tendered as part of a larger specification package |
|------|---|

Table 8-28: 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 The following document must be provided to, but not be limited to, the Critical Design Review meeting:

All data to prove that the Contractors proposed solution meets all the technical and logistic requirements of the SOW.

Draft documents to include but are not limited too:

1. Draft Electrical schematics / design for the crane;
2. Draft Electrical hardware for the crane;
3. Draft Software architecture / design diagram and description
4. Draft Structural drawings / design for the crane
5. Draft Mechanical drawings / design for the crane
6. Draft Mechanical hardware for the crane
7. Draft Hydraulic drawings / design for the crane
8. Draft Hydraulic hardware for the crane
9. Draft Control System Descriptions, including all Safety Systems
10. Draft Crane Load Diagram, which must include but is not limited to, ultimate load, SWL and working load limit.
11. Draft Details of a Failure Modes and Effect Analysis (FMEA) for the crane
12. Draft Installation Information
 - Must include design installation criteria and installation recommendations for the completion of a final design installation specification by DND.
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)
14. Listing of the Classification Society Certifications and Approvals required.
15. Draft Crane design load, moment and force calculations of the new crane
 - Design load, moment and force calculations associated with the crane, that comply to LR (LAME) requirements and to enable calculation of structural strength requirements to allow for full design operational loading and consequent structural support design
16. Draft Integrated Logistics Support (ILS) documentation
 - 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)
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
18. Draft New crane pedestal adaptor, if applicable
19. Interface power supply requirements for the new crane and associated equipment
20. Draft Crane Integrated Communication System (ICS) interface requirements;
21. Draft Crane Alarm and Monitoring System (AMS) interface requirements and
22. Draft Crane and associated equipment General Arrangement and layout drawings

- | | |
|------|--|
| 10.2 | <ol style="list-style-type: none">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.2. Prepare Critical Design Documents in the Contractors format.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.4. Utilize a provided drawing number sequence and subject headers as this specification will be tendered as part of a larger specification package |
|------|--|

Table 8-29: DID-EN-03

8.4.2.4 DID-EN-04

| | | | |
|---|-------------------------------------|--------------------------|--|
| 1. TITLE | | 2. IDENTIFICATION NUMBER | |
| 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 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 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.

TDP must include each of the following but is not limited too:

1. Final Electrical schematics / design for the crane;
2. Final Electrical hardware for the crane;
3. Final Software architecture / design diagram and description
4. Final Structural drawings / design for the crane
5. Final Mechanical drawings / design for the crane
6. Final Mechanical hardware for the crane
7. Final Hydraulic drawings / design for the crane
8. Final Hydraulic hardware for the crane
9. Final Control System Descriptions, including all Safety Systems
10. Final Details of a Failure Modes and Effect Analysis (FMEA) for the crane
11. Final Crane Load Diagram, which must include but is not limited to, ultimate load, SWL and working load limit.
12. Final Installation Information
 - Must include design installation criteria and installation recommendations for the completion of a final design installation specification by DND.
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)
14. Final Listing of the Classification Society Certifications and Approvals required.
15. Final Crane design load, moment and force calculations of the new crane
 - Design load, moment and force calculations associated with the crane, that comply to LR (LAME) requirements and to enable calculation of structural strength requirements to allow for full design operational loading and consequent structural support design
16. Final Integrated Logistics Support (ILS) documentation
 - 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)
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
18. Final New crane pedestal adaptor, if applicable
19. Final Interface power supply requirements for the new crane and associated equipment
20. Final Crane Integrated Communication System (ICS) interface requirements;
21. Final Crane Alarm and Monitoring System (AMS) interface requirements and
22. Final Crane and associated equipment General Arrangement and layout drawings

| | |
|------|--|
| 10.3 | <div>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.</div> <div>2. Prepare TDP in the Contractors format.</div> <div>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.</div> <div>4. Utilize a provided drawing number sequence and subject headers as this specification will be tendered as part of a larger specification package</div> |
|------|--|

Table 8-30: DID-EN-04

8.4.2.5 DID-EN-05

| | | | |
|--|-------------------------------------|--------------------------|----------|
| 1. TITLE | | 2. IDENTIFICATION NUMBER | |
| TBP | | DID-EN-04 | |
| 3. DESCRIPTION / PURPOSE | | | |
| The TBP is intended to provide the necessary data for any DND representative to evaluate the engineering and operational feasibility of the crane IAW LAME regulations and performance requirements. | | | |
| 4. APPROVAL DATE | 5. OFFICE OF PRIMARY INTEREST (OPI) | | 6. SPARE |
| | Technical Authority, DND, DNPS 6-3 | | |
| 7. APPLICATION / INTERRELATIONSHIP - APPLICATION / INTERDEPENDANCE | | | |
| CDRL-EN-05 | | | |
| SOW Ref: 3.2, 5.6, and 3.4 | | | |
| 8. ORIGINATOR | | 9. APPLICABLE FORMS | |
| 10. PREPARATION INSTRUCTIONS | | | |
| 10.1 The Bidder is to supply a TBP that includes general arrangements, descriptions and calculations using the information based on performance requirements in section 5 specifically the accelerations at the base of the pedestal for loading curves and calculations. | | | |
| 10.2 The Bidder is to supply a TBP that includes the following: | | | |
| <ol style="list-style-type: none"> 1. Weigh, COG, dimensions of assemblies 2. Mechanical ,structural and electrical interface details 3. Power requirements along with and auxiliary systems as necessary | | | |
| 10.3 The Bidder is to certify that the crane proposed is fit for all load related functions while respecting the dimensional limitations in Section 5. In particular the use of LAME rules require the application of dead and live loads resulting from the dynamic use of the crane, on a platform with heel/list angles. The contractor is to provide calculations for each load case position showing: | | | |
| <ol style="list-style-type: none"> 1. Load factors used 2. Effect of motion compensation devices (heave compensation, constant tension) 3. Maximum off-lead angles 4. Resulting factored loads on hook 5. Vector diagrams showing the load at the major structural components of the crane 6. Resulting reactions at the crane base 7. SWL vs reach diagrams 8. Ultimate Load vs Reach diagrams 9. Working Load vs Reach diagrams | | | |
| See Section 5.6 for the accelerations at the base of the crane pedestal and the environmental conditions. See Section 5 for loading and usage for determining duty factors. | | | |

| | |
|------|---|
| 10.4 | 1. Prepare the TBP using metric units, unless the source of the original documentation is non-metric, and no changes to that original documentation are to be made. |
| | 2. Prepare TBP in the Contractors format. |

Table 8-31: DID-EN-05

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"> 1. The list of prerequisite mandatory inspection reports required, to verify LR and technical requirements of the statement of SOW, in order to proceed with the FAT 2. The detailed list of supplies and systems required to complete the FAT without being limited to <ol style="list-style-type: none"> 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 <ol style="list-style-type: none"> a) The weights handling b) The crane operation c) The readings and data collection 4. The list of the mandatory attendance without being limited to <ol style="list-style-type: none"> a) DND | | | |

b) Regulatory Bodies

- 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 8-32: DID-AT-01

8.4.3.2 DID-AT-02

| | | | |
|---|--|---|----------|
| 1. TITLE Crane STW Plan and Procedures | | 2. IDENTIFICATION NUMBER 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) Technical Authority, DGMEPM, DNPS 6-3 | | 6. SPARE |
| 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 LR 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 trails 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 8-33: 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 LR 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 8-34: DID-AT-03

| | | | | |
|---------------|---------------------------|-----|----------|---------------|
| Page 79 of 87 | Halifax Replacement Crane | SOW | Revision | Date |
| | | | 4.1 | 27 March 2017 |

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"> 1. Description of the system and the test set up environment. 2. Copies of the FAT, STW and SAT Plans, the FAT, STW and SAT Procedures. 3. Copies of all the test reports where applicable. 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. 5. A section detailing faulty devices or equipment "set-to-work", which must include as a minimum: <ol style="list-style-type: none"> a) Test / measurement plan of the equipment with expected results b) Faulty Test / measurement records c) Remedy actions d) Test Records after remedy e) Confirmation of acceptance of the faulty device or equipment 6. A section detailing any failure to meet any requirement of the SOW and the Contractor corrective actions to gain SOW compliance. 7. Summary of any recommendations. | | | |

Table 8-35: 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 | 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. |
| 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"> 1. The instruction for the DND operational, maintenance and training staff on crane components and functions; 2. Various operating modes 3. Instrumentations 4. Limits of operation, alarms, safety and shut downs 5. Alarms 6. System troubleshooting and hands-on operation. training 7. The crane and its various equipment start-up 8. The crane and its various equipment routine inspections, maintenances and adjustments 9. The crane and its various equipment shut down and long term stowage protections. |
| 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"> 1. Outline 2. Training materials 3. Workbook/Manual/Text etc. 4. Appropriate training aids |

Table 8-36: DID-LOG-01

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 8-37: 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"> 1. Spare Parts Manuals 2. Provisioning Parts Breakdown 3. Recommended Maintenance Plan 4. FMEA 5. Mean Time Between Failure analysis (MTBF) 6. Operations Manual and 7. Maintenance Manual 8. Technical Drawing Package (DID-EN-04) | | | |

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 8-38: DID-LOG -03

ANNEX B
MILESTONE PAYMENT SCHEDULE

| MILESTONE No. | DESCRIPTION - PM AND DESIGN DOCUMENTS | FIRM PRICE |
|---------------|--|------------|
| DESIGN | | |
| 1 | Completion of Project Kick Off Meeting and Acceptance of Project Management Plan | |
| 2 | Delivery of Initial Design Documents | |
| 3 | Delivery of Maintenance Concept | |
| 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 | |
| | Total Design Phase (Total price not to exceed 12.5% of Total Contract Value) | |

| MILESTONE No. | DESCRIPTION - CFB HALIFAX | FIRM PRICE |
|---------------|---|------------|
| CRANES | | |
| 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 | |
| | Total Ship Crane #1 | |
| 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 | |
| | Total Ship Crane #2 | |
| 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 | |
| | Total Ship Crane #3 | |
| 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 | |
| | Total Ship Crane #4 | |
| 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 | |
| | Total Ship Crane #5 | |
| 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 | |
| | Total Ship Crane #6 | |
| 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 | |
| | Total Ship Crane #7 | |
| 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 (Fleet School) | |
| 15E* | Training Crane #8 - End of 12 month warranty period - final acceptance | |
| | Total Training Crane #8 | |
| 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 | |
| | Total Spare Crane #9 | |

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

TOTAL (CDN)

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

ANNEX "C"

DELIVERY SCHEDULE

| Item # | Description | 'Specify' Days or Working Days (WD) after Contract Award (CA) |
|---------------|---|--|
| 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 st Crane with Spare Parts and Special Purpose Tools | |
| 13 | Delivery of all sixteen (16) 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 | |

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

| Section #5 Special Purpose Tools (SPT) IAW with SOW 3.2 (Item 5), 5.8.1 and 7.2.3 | Unit Price | Quantity | Total 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 | | | \$ |

| Section #6 Acceptance Testing, Plans and Procedures | Unit Price | Quantity | Total Price |
|---|-------------------|-----------------|--------------------|
| 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 | | | |
| | | | |
| Total Price | | | \$ |

| Section #7 Classification Society IAW SOW 3.2 (Item 9) and 6.4.1 | Unit price | QTY | Total Price |
|---|-------------------|------------|--------------------|
| | | | |
| | | | |
| | | | |
| Total Price | | | \$ |

| Section #8 Integrated Logistics Support | Unit price | QTY | Total Price |
|---|------------|-----|-------------|
| 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 | | | |
| | | | |
| Total Price | | | \$ |

| | |
|-----------------------------|----|
| TOTAL PRICE FOR (16) CRANES | \$ |
|-----------------------------|----|

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.

OPTION CRANES, SPARE PARTS, SPECIAL PURPOSE TOOLS

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.

| 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 | Total Price |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL PRICE FOR (14) OPTION CRANES | | | | \$ |

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| Section #10 Spare Parts for (14) Option Cranes IAW with SOW 3.2 (Item 3), 5.81 and 7.2.2 | Unit Price | Quantity | Total Price |
|---|-------------------|-----------------|--------------------|
| <i>Bidder shall provide a separate list of parts description and part number</i> | | | |
| | | | |
| | | | |
| TOTAL PRICE FOR (14) OPTION SPARE PARTS | | | \$ |

| 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 | Total 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 FOR (14) OPTION SPECIAL PURPOSE TOOLS | | | \$ |

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

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".

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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"

FINANCIAL BID PRESENTATION SHEET

SECTION 1

| Item # | Price Breakdown for the Provision of (16) cranes IAW with Annex A SOW | Total Price (\$) |
|--------------------------|---|------------------|
| 1 | Project Management as per Annex D, Section 1 | |
| 2 | Acceptance of Engineering Design Documents of the Crane, as per Annex D, Section 2 | |
| 3 | Acceptance of (16) Cranes, as per Annex D, Section 3 | |
| 4 | Acceptance of (16) sets of Spare Parts, as per Annex D, Section 4 | |
| 5 | Acceptance of (16) sets Special Purpose Tools, as per Annex D, Section 5 | |
| 6 | Acceptance of Testing, Plans and Procedures, as per Annex D, Section 6 | |
| 7 | Certification of Classification Society, as per Annex D, Section 7 | |
| 8 | Acceptance of Integrated Logistics Support, as per Annex D Section 8 | |
| 9 | Acceptance of (14) Option Cranes, as per Annex D, Section 9 | |
| 10 | Acceptance of (14) Option sets of Spare Parts, as per Annex D, Section 10 | |
| 11 | Acceptance of (14) Option sets of Special Purpose Tools, as per Annex D, Section 11 | |
| TOTAL PRICE (CDN) | | \$ |

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SECTION 2 – Bidders must provide the following Hourly rates as per Part 7, Clauses 6.2 Basis of Payment and 6.4 Discretionary Audit for Additional / Unscheduled Work of the RFP.

| Clause | Descriptions | Rates |
|--------|---|-------|
| 6.2.1 | Labor Rate for Additional / Unscheduled Work Work including Design Change, Engineering Change or change in the scope of work. | |
| 6.2.2 | Overtime for Additional / Unscheduled Work: Time and One-Half if different than 6.2.1 | |
| 6.2.3 | Overtime for Additional / Unscheduled Work: Double Time if different than 6.2.1 and 6.2.2 | |

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

Signed: _____ **Date:** _____

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ANNEX "I"

SECURITY REQUIREMENTS CHECK LIST



Government of Canada
Gouvernement du Canada

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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"/> | |
| Not releasable À ne pas diffuser <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: | |
| 7. c) Level of information / Niveau d'information | | | |
| PROTECTED A PROTÉGÉ A <input type="checkbox"/> | | NATO UNCLASSIFIED NATO NON CLASSIFIÉ <input type="checkbox"/> | |
| PROTECTED B PROTÉGÉ B <input type="checkbox"/> | | NATO RESTRICTED NATO DIFFUSION RESTREINTE <input type="checkbox"/> | |
| PROTECTED C PROTÉGÉ C <input type="checkbox"/> | | NATO CONFIDENTIAL NATO CONFIDENTIEL <input type="checkbox"/> | |
| CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/> | | NATO SECRET NATO SECRET <input type="checkbox"/> | |
| SECRET SECRET <input type="checkbox"/> | | COSMIC TOP SECRET COSMIC TRÈS SECRET <input type="checkbox"/> | |
| TOP SECRET TRÈS SECRET <input type="checkbox"/> | | | |
| TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/> | | | |
| | | PROTECTED A PROTÉGÉ A <input type="checkbox"/> | |
| | | PROTECTED B PROTÉGÉ B <input type="checkbox"/> | |
| | | PROTECTED C PROTÉGÉ C <input type="checkbox"/> | |
| | | CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/> | |
| | | SECRET SECRET <input type="checkbox"/> | |
| | | TOP SECRET TRÈS SECRET <input type="checkbox"/> | |
| | | TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/> | |



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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 ☐ NATO CONFIDENTIAL
NATO CONFIDENTIEL ☐ NATO SECRET
NATO SECRET ☐ COSMIC TOP SECRET
COSMIC TRÈS SECRET

☐ TOP SECRET-- SIGINT
TRÈS SECRET -- SIGINT ☐ 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 public/reception zone*

Dans l'affirmative, le personnel en question sera-t-il escorté?

☒ 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



Government
of Canada

Gouvernement
du Canada

Contract Number / Numéro du contrat

W8482-156383

Security Classification / Classification de sécurité
Unclassified

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 CONFIDENTIEL | SECRET | TOP SECRET TRÈS SECRET | NATO RESTRICTED NATO DIFFUSION RESTREINTE | NATO CONFIDENTIAL NATO CONFIDENTIEL | NATO SECRET | COSMIC TOP SECRET COSMIC TRÈS SECRET | PROTECTED PROTÉGÉ | | | CONFIDENTIAL CONFIDENTIEL | SECRET | TOP SECRET TRÈS SECRET |
| | | | | | | | | | | | A | B | C | | | |
| 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).

ANNEX "J"

MANDATORY TECHNICAL EVALUATION CRITERIA

| Item # | Criteria | Compliant | | Reference to applicable page and paragraph of Proposal |
|--------|--|-----------|----|--|
| | | Yes | No | |
| 1 | <p>The Bidder must demonstrate that they have a minimum of 10 years' experience designing, manufacturing and commissioning class society approved offshore electro-hydraulic crane systems, by delivering three (3) examples of offshore crane projects which they implemented and which quantify the bidder's in-house expertise and capability.</p> <p>The Bidder must detail when and where the cranes were installed, who the customer was, and general scope about the project.</p> | | | |
| 2 | The Bidder must demonstrate that they have at least three (3) years of experience designing, manufacturing, and commissioning cranes of similar complexity of no less than 75% of the lifting capacity required by the SOW. | | | |
| 3 | <p>The Bidder must provide a preliminary Project Management Plan that clearly articulates how the bidder proposes to achieve the following schedule timeline:</p> <ol style="list-style-type: none"> 1. First (1st) crane delivered and ready for installation no later than 365 days after contract award. 2. Delivery of sixteen (16) cranes in a two (2) year period starting at the delivery of the first (1st) crane. 3. Delivery of the fourteen (14) option cranes within a two (2) year period commencing with the exercising of the option cranes. | | | |
| 4 | The Bidder must demonstrate that the proposed crane can meet the requirements IAW Annex A Section 5.0. | | | |

| | | | | |
|---|---|--|--|--|
| 5 | <p>The Bidder must submit a Technical Bid Package in accordance with CDRL EN-05 and DID EN-05.</p> <p>The Bidder must demonstrate that the proposed crane can meet LAME regulations IAW Annex A, Section 5, CDRL-EN-05 and DID-EN-05 requirements.</p> <p>The Bidder must demonstrate compliance through the provision of calculations and/or numeric models which use the provided base accelerations, loading masses, and environmental conditions as computational inputs.</p> <p>Compliance will be determined through the evaluation of bidder calculations and models by Government of Canada assigned experts.</p> | | | |
| 6 | The Bidder must demonstrate that they have developed one (1) Crane Operations Manual in English in the last three (3) years. | | | |
| 7 | The Bidder must demonstrate that they have developed one (1) Crane Maintenance Manual in English in the last three (3) years. | | | |
| 8 | <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"> 1. A valid ISO 9001:2005 certification if registered, or equivalent; and 2. An example of a Quality Control Plan (QPC) as applied on previous projects for designing, manufacturing, and commissioning of a similarly complex crane design. | | | |
| 9 | The Bidder must provide a duly completed Statement of Compliance to the SOW in a requirement matrix format as per the example in Annex "K" | | | |

ANNEX “K”

**EXAMPLE OF A STATEMENT OF COMPLIANCE TO THE SOW
IN A REQUIREMENT MATRIX FORMAT**

| SOW REF # | SOW PARAGRAPH TITLE | COMPLIANCE | CROSS REFERENCE IN BIDDER'S PROPOSAL | COMMENTS |
|----------------------|--|-------------------|---|---|
| 1.1 | Scope | Comply | Read and understood | |
| 1.2 | Background | Comply | Read and understood | |
| 1.3 | Objectives of the KB Crane Procurement | Comply | Read and understood | |
| 5.1 | Crane Performance Requirement | Comply | <i>It recommended that the bidders use the same breakdown of the SOW. Bidder must place here the reference # of its proposal where will appear the exhaustive descriptions, detailed examples and supporting documents proving that its proposal meets the requirements of the article 5.1 of the SOW</i> | |
| 8.3.2.4 | DID-EN 04 | Comply | Read and understood | See answers to Mandatory Technical Criteria Annex “J” of our Proposal |