Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada

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 - Commaintaires

Title - Sujet
Naval Large Tugs Request for Info

Solicitation No. - N° de l'invitation	**Date**
W8472-185713/B	2018-06-27

Client Reference No. - N° de référence du client
W8472-185713

GETS Reference No. - N° de référence de SEAG
PW-$$MC-017-26882

File No. - N° de dossier	**CCC No./N° CCC - FMS No./N° VME**
017mc.W8472-185713	

Solicitation Closes - L'invitation prend fin
at - à 02:00 PM
on - le 2018-08-30

Time Zone
Fuseau horaire
Eastern Daylight Saving Time EDT

F.O.B. - F.A.B.
Plant-Usine: ☐ **Destination:** ☑ **Other-Autre:** ☐

Address Enquiries to: - Adresser toutes questions à:	**Buyer Id - Id de l'acheteur**
Lamothe, Brenda	017mc

Telephone No. - N° de téléphone	**FAX No. - N° de FAX**
(819) 420-2916 ( )	( ) -

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

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Delivery Required - Livraison exigée	**Delivery Offered - Livraison proposée**
See Herein	

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**

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

Canada

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PART 1 - GENERAL INFORMATION

All contract awards are subject to Canada's internal approval process, which includes a requirement to approve funding in the amount of any proposed contract. Notwithstanding that a Bidder may have been recommended for contract award, issuance of any contract will be contingent upon internal approval in accordance with Canada's policies, including approval by Treasury Board in its absolute discretion. Canada makes no representation that any such approval will be sought or given. If such approval is not sought or given, no contract will be awarded. The Bidder will have no claim for damages, compensation, loss of profit, or allowance arising out of the preparation of its bid or the internal approval process conducted by Canada

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 / System Requirements Document, Basis of Payment, Subcontractors, Bidders Questions and Canada's Responses, Insurance Requirements, Inspection / Quality Assurance / Quality Control, Evaluation Matrix, Contract Financial Security, the Federal Contractors Program for Employment Equity - Certification, and any other annexes.

1.2 Summary

1.2.1 The Department of National Defence has a requirement to purchase four (4) Naval Large Tugs (NLTs) based on a Proven Parent designed and built in accordance with Annex "A" System Requirements Document (SRD) and Statement of Work (SOW).

1.2.2 This procurement falls under the small vessel construction component of the National Shipbuilding Strategy (NSS), whereby the requirement will be competed to Canadian Industry.

1.2.3 Canada respects all Government of Canada policies as they may apply to this requirement, including the Shipbuilding Policy Framework: "A New Policy Framework for the Canadian Shipbuilding and Industrial Marine Industry – Focusing on Opportunities 2001". https://www.ic.gc.ca/eic/site/sim-cnmi.nsf/vwapj/framework-cadre01_eng.pdf/$file/framework-cadre01_eng.pdf

1.2.4 The Federal Contractors Program (FCP) for employment equity applies to this procurement; refer to Part 5 – Certifications and Additional Information, Part 7 - Resulting Contract Clauses and Annex "I" Federal Contractors Program for Employment Equity - Certification.

1.2.5 Phased Bid Compliance Process – The Phased Bid Compliance Process applies to this requirement.

1.2.6 This procurement includes a mandatory Aboriginal participation component under the Procurement Strategy for Aboriginal Business (PSAB) program.

1.3 Provisional Acceptance, Acceptance and Delivery Schedule

1.3.1 Four (4) Naval Large Tugs (NLT)

The successful Bidder must deliver four (4) Naval Large Tugs (NLT). The Boats must be upright, stable, seaworthy, and afloat alongside and ready for Acceptance by Canada at the delivery points named in this RFP, having achieved Provisional Acceptance at the Contractor's shipyard prior thereto. Provisional Acceptance means, successful Provisional Acceptance at the Contractor's facility, that is, complete in all respects ready for shipping with all respective tests and trials and demonstrations and certifications successfully completed to the satisfaction of the Inspection Authority (IA), Contracting Authority (CA) and Technical Authority (TA) and in accordance with the Contract. The Contractor must deliver for Acceptance by Canada, (Provisional Acceptance having been achieved prior thereto) as follows:

a) Two (2) NLT's delivered to the Department of National Defence, CFB Esquimalt, Esquimalt, British Columbia on or before 24 months following completion of Milestone 2 Critical Design Review.

b) Two (2) NLT's delivered to the Department of National Defence, CFB Halifax, Halifax, Nova Scotia on or before 42 months following completion of Milestone 2 – Critical Design Review.

The vessels must be delivered with no more than 500 hours on the main engines.
The vessels shall not be towed from the shipyard to the delivery points listed above.

1.4 Communications Notification

As a courtesy, the Government of Canada requests that successful bidders notify the Contracting Authority in advance of their intention to make public an announcement related to the award of a contract.

1.5 Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

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

The 2003 (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days
Insert: 180 days

2.1.1 *SACC* Manual Clauses

B1000T (2014-06-26), Condition of Material – Bid
B3000T (2006-06-16), Equivalent Products

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.

Due to the nature of the bid solicitation, bids transmitted by facsimile to PWGSC will not be accepted.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten 10 calendar days before the bid closing date. Enquiries received after that time may not be answered.

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

2.4 Applicable Laws

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

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory

specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

2.5 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least seven days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

2.6 Commercial Off the Shelf (COTS) Basis of NLT

Canada intends to procure four naval large tugsto meet the requirements of DND. Canada understands that some changes to an existing COTS design will be required to meet the requirements of Canadian regulations at the time of keel laying for the NLTs. Canada further understands that different vessels built from a common design may differ in terms of details regarding the as-built construction, systems and capabilities.

In order to address this, Canada requires bidders to provide not only a design but also to identify, by name and IMO number, an as-built vessel of that design in their bid.

The paradigm Canada intends to follow for the NLT bid process is as follows:

The Bidder must propose a design that is a Transport Canada Delegated Statutory Inspection Program (DSIP) recognized organization (Classification Society) approved design which has been designed and built within the last ten (10) years. The design selected is referred to as the Proven Parent Design in the SOW. Furthermore, the proposed design must:

> Meets the performance and technical requirements for the parent design located in the System Requirement Document (SRD) in Annex “A”, of which a selection of the requirements will be verified as part of the bid process described in Part 3 and Part 4;
>
> Must be able to be updated to meet the in-force requirements at contract award of the (DSIP) including IMO Tier III and Classification Society approval as indicated as regulatory and technical requirements in the SRD in Annex “A”. The Classification Society selected must be one of the recognized organizations authorized by Transport Canada under the DSIP.

In addition, the Bidder must provide details on an existing, in-service vessel built from the Proven Parent Design which has entered service within the last ten (10) years and is currently in-service under Transport Canada Delegated Statutory Inspection Program recognized organization (Classification Society) approval. Furthermore, the in-service vessel must:

> Have a minimum of 1000 hours of service;
>
> Be able to be shown to meet the mandatory performance and technical requirements in Annex “G”; and
>
> Be situated in a location that is not under a Government of Canada Travel Advice and Advisories notice of the level “avoid non-essential travel” or higher for the country, or the region of the country, in which the vessel is located.

This as-built vessel is referred to as the Proven Parent In-Service Vessel in the SOW.

As part of their bid preparation process, the Bidder must make any arrangements as necessary to ensure the Proven Parent In-Service Vessel will be available for the Proven Parent In-Service Vessel Inspection by Canada and the Bidder as detailed in the SOW. The Bidder must also obtain a Letter of Attestation from the Owner of the Proven Parent In-Service Vessel as described in Annex “G”.

It is critical that the Bidder understand the Initial SRD requirements will be those presented in the SRD in Annex “A” of this RFP. Only after contract award will the selected bidder take part in the Proven Parent In-Service Vessel Inspection, which will add additional requirements to the Initial SRD as described in the SOW.

The Final SRD is the Initial SRD with the addition of those aspects of the Proven Parent Design and Proven Parent In-Service Vessel that will be agreed to during the Proven Parent In-Service Vessel Inspection. The Final SRD that will be the basis of the Compliance Verification Matrix which will be monitored and assessed throughout the NLT contract to ensure that the NLT will perform to the capabilities of the Proven Parent In-Service Vessel.

Finally, it is imperative that the bidder understand that their bid must reflect the effort to produce NLTs that meet the Final SRD requirements. This will necessitate the Bidder be very familiar with the Proven Parent In-Service Vessel so that they can accurately bid the cost to manufacture like vessels in terms of as-built construction, systems and capabilities.

2.7 Aboriginal Participation Component (APC)

(a) The APC is a mechanism designed to meet the Government of Canada’s objectives of encouraging Aboriginal socio-economic development through federal contracting opportunities. The APC is also designed to encourage Industry Respondents to contribute to creating long-term sustainable and meaningful socio-economic benefits for Aboriginal people, businesses and communities.

(b) Example of acceptable APCs

(i) The APC’s main goal consists of **Aboriginal Business Development** and encourages prime contractors to contribute and invest in building and developing viable Aboriginal business capacity by procuring goods and services from qualified Aboriginal firms. Prime contractors or its subcontractor(s) are also encouraged to demonstrate how they intend to maximize the use of Aboriginal firms such as identify the work intended to be carried out by Aboriginal firms including contract and supply chain management. Bidders should refer to Annex “M” for information that can help identify Aboriginal business capacity, for contracting and sub-contracting purposes.

(ii) The APC also encourages the use of **Aboriginal Employment**; prime contractors are encouraged to demonstrate how Aboriginal employment will be maximized and include details pertaining to Aboriginal recruitment and retention strategies and related job activities such as the work to be carried out by each position. Bidders may wish to contact Employment and Social Development Canada (ESDC) to find out about Aboriginal Labour Programs.

(iii) The APC also consists of **Aboriginal Training and Skills Development**; prime contractors are encouraged to demonstrate how training opportunities and skills development will be maximized for Aboriginal persons such as how they intend to provide on-the job training, in-house training as well as succession plans.

(iv) When there is a lack of Aboriginal business capacity, the prime contractor may consider **other relevant measures (indirect benefits)** such as, but not limited to specialized training, career development, scholarships and community outreach to help Aboriginal communities in meeting their economic development needs. In support of the APC, bidders are encouraged to reach out to Aboriginal businesses and communities.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Due to the nature of the bid solicitation, bids transmitted by facsimile will not be accepted.

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (three hard copies)

Section II: Management Bid (three hard copies)

Section III: Financial Bid (one hard copy)

Section IV: Certifications (two hard copies)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

(a) use 8.5 x 11 inch (216 mm x 279 mm) paper where feasible and with technical drawings, use a minimum of 11 x 17 inch (279 mm x 432 mm) paper to ensure legibility;
(b) 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.

3.1.1 Section I: Technical Bid

In their Technical Bid, Bidders should demonstrate their understanding of the technical requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability 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.

3.1.2 Section II: Management Bid

In their Management Bid, Bidders must describe their capability and experience, the project management team and provide client contact(s) in a thorough, concise and clear manner.

In order to substantiate their compliance to each criterion, the Bidder should refer to the supporting documents within their Management Bid, with the exact page number(s) and paragraph number(s) where the required substantiation can be found.

3.1.3 Section III: Financial Bid

The Financial Bid must not be attached to or combined within any other part of the bid and prices must not appear in any other area of the proposal other than the Financial Bid.

3.1.3.1 Bidders must submit their **Financial bid** in accordance with Annex “B” Basis of Payment.

3.1.3.2 Bidders must submit their **Cost Breakdown** sheet in accordance with Annex “B” Basis of Payment

3.1.3.3 Bidders must **provide a letter**, issued by and on the letterhead of an approved surety or financial institution as per article 7.34 of the Resulting Contract Clauses.

3.1.3.4 Exchange Rate Fluctuation

C3010T (2014-11-27), Exchange Rate Fluctuation Risk Mitigation

3.1.4 Section IV: Certifications Bid and Other Requirements

Bidders must submit the certifications and additional information required under Part 5 and Part 6.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Canada will use the Phased Bid Compliance Process described below.

4.1.1 Phased Bid Compliance Process (PBCP)

4.1.1.1 **General**

(a) Canada is conducting the PBCP described below for this requirement.

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

THE BIDDER ACKNOWLEDGES THAT THE REVIEWS IN PHASE I AND II OF THIS PBCP ARE PRELIMINARY AND DO NOT PRECLUDE A FINDING IN PHASE III THAT THE BID IS NON-RESPONSIVE, EVEN FOR MANDATORY REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE.

IN SUCH EARLIER PHASES. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE.

THE BIDDER ALSO ACKNOWLEDGES THAT ITS RESPONSE TO A NOTICE OR A COMPLIANCE ASSESSMENT REPORT (CAR) (EACH DEFINED BELOW) IN PHASE I OR II MAY NOT BE SUCCESSFUL IN RENDERING ITS BID RESPONSIVE TO THE MANDATORY REQUIREMENTS THAT ARE THE SUBJECT OF THE NOTICE OR CAR, AND MAY RENDER ITS BID NON-RESPONSIVE TO OTHER MANDATORY REQUIREMENTS.

(c). Canada may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Canada to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.

(d) The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC) 2003 (2017-04-27) Standard Instructions – Goods or Services – Competitive Requirements nor Canada's right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).

(e) Canada will send any Notice or CAR by any method Canada chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the Notice or CAR. An email response permitted by the

Notice or CAR is deemed received by Canada on the date and time it is received in Canada's email inbox at Canada's email address specified in the Notice or CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada. Canada is not responsible for late receipt by Canada of a response, however caused.

4.1.1.2 Phase I: Financial Bid

(a) After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Canada's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.

(b) Canada's review in Phase I will be performed by officials of the Department of Public Works and Government Services.

(c) If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.

(d) For Bids other than those described in c), Canada will send a written notice to the Bidder ("Notice") identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.

(e) The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.

(f) In its response to the Notice, the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.

(g) Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, **only** that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.

(h) Canada will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.

(i) Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Canada, will receive a Phase II review.

4.1.1.3 Phase II: Technical Bid and Management Bid

(a) Canada's review at Phase II will be limited to a review of the Technical Bid and Management Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Evaluation Criteria. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Evaluation Criteria are all mandatory criteria that are identified in this solicitation as being subject to the PBCP. Mandatory Evaluation Criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.

(b) Canada will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Evaluation Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.

(c) A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Evaluation Criteria identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.

(d) The Bidder's response must address only the Eligible Mandatory Evaluation Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Evaluation Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.

(e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Evaluation Criteria in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Evaluation Criteria. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.

(f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.

(g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Evaluation Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Evaluation Criteria that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Evaluation Criteria and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Evaluation Criteria, will not change, and it will be that original score that is used to calculate any score for the Bid.

(h) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.

(i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

4.1.1.4 Phase III: Final Evaluation of the Bid

(a) In Phase III, Canada will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the Technical Point Rated Evaluation Criteria, Financial Evaluation Criteria, and Certifications & other Requirements Evaluation Criteria.

(b) A Bid is non-responsive and will receive no further consideration if it does not meet all Mandatory Evaluation Criteria or the minimum score required for the categories evaluated as part of the Technical Point Rated Evaluation Criteria of the solicitation.

4.1.2 Eligible Mandatory Evaluation Criteria

4.1.2.1 Mandatory Technical Criteria and Mandatory Management Criteria

The Phased Bid Compliance Process will apply to all Mandatory Technical Criteria outlined in:
a) Annex « G », Appendix A, Table 1, Technical Compliance Matrix; and
b) Annex « G », Appendix A, Table 2, Technical Bid Evaluation Matrix.

The Phased Bid Compliance Process will also apply to all Mandatory Management Criteria outlined in:
a) Annex "G", Appendix A, Table 3, Boat Construction Experience; and
b) Annex "G", Appendix A, Table 4, Other Requirements.

4.1.2.2 Point Rated Technical Criteria

The Phased Bid Compliance Process will apply to all Point Rated criteria outlined in:

a) Annex G, Table 6, Boat Construction Experience;
b) Annex G, Table 7, Construction Infrastructure and Facilities;
c) Annex G, Table 8, Project Management Team;
d) Annex G, Table 9, Project Management Plan;
e) Annex G, Table 10, Master Plan and Schedule; and
f) Annex G, Table 11, Quality Plan

4.2 Evaluation Procedures

(a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the "technical", "management", "financial" and “certifications” evaluation criteria.

(b) An evaluation team composed of representatives of Canada will evaluate the bids. A Fairness Monitor (FM) has been engaged to oversee the process. A FM working at arm’s length from Canada’s evaluation team will be observing and reporting on the Naval Large Tug procurement process. The FM will have unrestricted access to all evaluation facilities in order to perform observations.

4.2.1 Technical Bid Evaluation

In order to ensure that Bidders provide all the required information, matrices have been provided to guide the Bidder in the completion of the section. Bidders should complete the matrices and include them with their bids.

Canada intends to use the completed matrices to verify the required technical information has been provided and meets the requirements. In order to substantiate their compliance to each criterion, the Bidder should refer to the supporting documents within their Technical Bid, with the exact page number(s) and paragraph number(s) where the required substantiation can be found.

4.2.1.1. Mandatory Technical Criteria

To be declared responsive, the Bidder’s proposal must meet all of the Mandatory Technical Criteria which are located in Annex “G” as follows:

Appendix A - Mandatory Evaluation Criteria – Technical Bid (Section l)
Table 1 - Technical Compliance Matrix; and
Table 2 - Technical Bid Evaluation Matrix

4.2.1.2 Point Rated Technical Criteria

The Point Rated Technical Criteria are located in Annex G as follows:

Appendix B – Technical Point Rated Evaluation Criteria – Technical Bid (Section l)

Table 5 – Vessel Technical Requirement

4.2.2 Management Bid Evaluation

In order to ensure that Bidders provide all the required information, matrices have been provided to guide the Bidder in the completion of the section. Bidders should complete the matrices and include them with their bids.

Canada intends to use the completed matrices to verify the required management information has been provided and meets the requirements. In order to substantiate their compliance to each criterion, the Bidder should refer to the supporting documents within their Management Bid, with the exact page number(s) and paragraph number(s) where the required substantiation can be found.

4.2.2.1 Mandatory Management Criteria

To be declared responsive, the Bidder's proposal must meet all of the Mandatory Technical Evaluation Criteria which are located in Annex "G" as follows:

Appendix A – Mandatory Evaluation Criteria – Management Bid (Section II)

Table 3 - Boat Construction Experience; and
Table 4 - Other Requirements.

4.2.1.2 Point Rated Management Criteria

The Point Rated Management Criteria are located in Annex "G" as follows:

Appendix B – Technical Point Rated Evaluation Criteria – Management Bid (Section II)

Table 6 - Boat Construction Experience
Table 7 - Construction Infrastructure and Facilities
Table 8 - Project Management Team
Table 9 - Project Management Plan
Table 10 - Master Plan and Schedule
Table 11 - Quality Plan

4.2.3 Financial Evaluation

In order to ensure that Bidders provide all the required information, a matrix has been provided to guide the Bidder in the completion of the section. Bidders should complete the matrix and include it with their bids.

Canada intends to use the completed matrix to verify the required financial information has been provided and meets the requirements. In order to substantiate their compliance to each criterion, the Bidder should refer to the supporting documents within their Financial Bid, with the exact page number(s) and paragraph number(s) where the required substantiation can be found.

4.2.3.1 Mandatory Financial Criteria

SACC Manual Clause A0220T (2014-06-26), Evaluation of Price

To be declared responsive, the Bidder's proposal must meet all of the Mandatory Financial Criteria which are located in Annex "G" as follows:

Appendix C – Financial Evaluation Criteria – Financial Bid (Section III)

Table 12 - Financial Bid Evaluation Matrix

4.2.4 Certifications and other Requirements Bid Evaluation

4.2.4.1 Mandatory Certifications Criteria

In order to ensure that Bidders provide all the required information, a matrix has been provided to guide the Bidder in the completion of the section. Bidders should complete the matrix and include it with their bids.

Canada intends to use the completed matrix to verify the required financial information has been provided and meets the requirements. In order to substantiate their compliance to each criterion, the Bidder should refer to the supporting documents within their Financial Bid, with the exact page number(s) and paragraph number(s) where the required substantiation can be found.

To be declared responsive, the Bidder's proposal must meet all of the Mandatory Certifications Criteria which are located in Annex "G" as follows:

Appendix D Certifications and other Requirements Evaluation Criteria – Certifications Bid (Section IV)
Table 13 – Security, Financial and Other Requirements
Table 14 – Certification Bid Evaluation Matrix

4.3 Basis of Selection

A bid must comply with all requirements of the bid solicitation to be declared responsive.

A mandatory requirement is described using the words "shall", "must", "will", "is required", "is to", "is responsible", "requires" or "is Mandatory".

To be declared responsive, a bid must:

a) comply with all the requirements of the bid solicitation, including the requirements of Part 5 and Part 6 of this solicitation;
b) meet all the mandatory criteria, including, Mandatory Technical Criteria, Mandatory Management Criteria, and Mandatory Financial Criteria;
and
c) obtain the required minimum points in each of the categories for the Point Rated Technical Criteria and Point Rated Management Criteria as contained in Annex "G".

The rating is performed on a Total Points Score of 222 points.

Bids not meeting "(a) or (b) or (c)" will be declared non-responsive.

The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 30 % for the technical merit and 70% for the price.

To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 30%.

To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 70%.

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

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

EXAMPLE ONLY:

The table below illustrates **an example** where all three bids are responsive and the selection of the contractor is determined by a 30/70 ratio of technical merit and price, respectively. The total available points equals 222 and the lowest evaluated price is $45,000.00.

Basis of Selection - Highest Combined Rating of Technical Merit (30%) and Price (70%)

	Bidder 1	**Bidder 2**	**Bidder 3**
Overall Technical Score	**115/222**	**89/222**	**92/222**
Bid Evaluated Price	**$55,000.00**	**$50,000.00**	**$45,000.00**
Calculations Technical Merit Score	**115/222 x 30=15.54**	**89/222 x 30=12.03**	**92/222 x 30=12.43**
Pricing Score	**45/55 x 70= 57.27**	**45/50 x 70= 63.00**	**45/45 x 70 =70.00**
Combined Rating	**72.81**	**75.03**	**96.23**
Overall Rating	**3rd**	**2nd**	**1st**

4.3.1 The calculation of the total bid price for the purposes of evaluation is shown in Annex “B” Basis of Payment

4.3.2 Bidders should note that all Contract Awards are subject to Canada’s internal approval process, which includes a requirement to approve funding in the amount of any proposed Contract. Notwithstanding that a Bidder may have been recommended for award of Contract, issuance of any Contract will be contingent upon internal approval in accordance with Canada’s policies. If such approval is not given, no Contract will be awarded.

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.

In order to ensure that Bidders provide all the required information, a matrix has been provided at Annex "G", Appendix D, Table 14 to guide the Bidder in the completion of the section. Bidders should complete the matrix and include it with their bids.

Canada intends to use the completed matrix to verify the required information has been provided and meets the requirements. In order to substantiate their compliance to each criterion, the Bidder should refer to the supporting documents within their Bid, with the exact page number(s) and paragraph number(s) where the required substantiation can be found.

5.1 Certifications Required with the Bid

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

5.1.1 Integrity Provisions - Declaration of Convicted Offences

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

5.2 Aboriginal Participation Component – Certification Form

By submitting a bid, the Bidder certifies that it will meet the Aboriginal Participation Component (APC). Therefore, at time of bid closing, the Bidder must provide the Contracting Authority with the completed APC Certification forms provided at Annex "J" Part 1 and Part 2. The Bidder should indicate where the completed APC Certification forms can be found in their proposal by completing the matrix contained in Annex "G", Appendix D, Table 14.

5. 3 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.

5.3.1 Integrity Provisions – Required Documentation

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

5.3.2 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 (https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#).

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.

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 titled 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 Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

5.3.3 Workers Compensation Certification – Letter of Good Standing

The Bidder must have an account in good standing with the applicable provincial or territorial Workers' Compensation Board.

5.3.4 Certification of Welding

It is a requirement of this RFP that the Bidders must provide evidence of certification for the current year for their shipyard with their bids and agree to maintain certification, until completion of the project, by the Canadian Welding Bureau (CWB) to CSA Standard W47.1: "Certification of Companies for Fusion Welding of Steel”.

The Bidder hereby attaches the following applicable information with the bid:

(a) Proof of certification to CSA Standard W47.1 for the current year; and

(b) Proof of CWB currently approved welding procedure specifications and supporting welding data sheets to construct the boat to project welding requirements; and

Either

(c) Proof of employed or sub-contracted inspection personnel are currently certified to CSA Standard W178.2; and

(d) Proof of employed welders currently certified to CSA Standard W47.1; and

(e) Proof of employed welding supervisors currently certified to CSA Standard W47.1 and W59;

or

(f) Proof of capability to obtain as and when required personnel currently certified / approved to the standards identified in (c) and (d) and (e) above.

5.3.5 Valid Labour Agreement

Where the Bidder has a labour agreement, or other suitable instrument, in place with its unionized labour, and where such labour agreement or instrument is scheduled to expire during the period of the Contract, the Bidder represents that negotiations and good faith bargaining have commenced at least six (6) months in advance of the labour agreement expiry. The Bidder further represents and warrants that it will take all appropriate actions to ensure a continuous valid labour agreement, with all its workers, for the duration of the Contract.

The Bidder hereby provides the following documentation as part of its bid:

a) List of all labour unions at Bidder’s facilities; and

b) List the number of labour agreements in force with these unions and provide copies of all labour agreements in force; or

c) Statement that there are no labour unions at the bidder's facility.

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

In order to ensure that Bidders provide all the required information, a matrix has been provided at Annex "G", Appendix D, Table 13 to guide the Bidder in the completion of the section. Bidders should complete the matrix and include it with their bid.

Canada intends to use the completed matrix to verify the required information has been provided and meets the requirements. In order to substantiate their compliance to each criterion, the Bidder should refer to the supporting documents within their Bid, with the exact page number(s) and paragraph number(s) where the required substantiation can be found.

6.1 Security Requirements

There is no security requirement associated with this bid solicitation.

6.2 Financial Capability

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

6.3 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 Annex "E".

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

6.4 Security for Performance – Letter

6.4.1 The Bidder shall provide evidence with its Proposal that it can provide Contract Financial Security as outlined in Annex "H" Part 1. Such evidence must take the form of a letter to be obtained at the sole expense of the Bidder, issued by an approved surety or financial Institution on its letterhead to the Minister of Public Works and Government Services and signed by an authorized representative, confirming unequivocally that, upon the Contract being awarded to the Bidder, the surety or financial institution will, upon request, provide the Bidder with a form of Contract Financial Security as outlined above, and setting out, at a minimum, the amount of any such security, the cost of such security, and the time period during which it is to be extended. Failure to provide this evidence by the Bidder will result in disqualification of its Proposal. The cost to the Bidder of the Contract Financial Security is to be indicated in Annex "B" Line Item Pricing. No mark-up or other fees are permitted to be added to the cost of the Contract Financial Security.

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

6.4.2 If this bid is accepted, the Bidder shall be required to provide Contract Financial Security within fourteen (14) calendar days of Contract Award as outlined in Annex "H" Part 1, Contract Financial Security and in accordance with Article Part 7, Article 7.34.

6.4.3 If, for any reason, Canada does not receive, within the specified period, the required Contract Financial Security described above, Canada may terminate the Contract for default pursuant to the Contract default provision.

6.4.4 Canada may, in its sole discretion, prior to or after Contract award and before the Bidder has delivered the Contract Financial Security under the Contract, waive the requirement under paragraph 6.4.2 to provide Contract Financial Security, in which event the price will be reduced by the amount of the cost to the Bidder of the Contract Financial Security as specified in Annex "B" Line Item Pricing, and the Bidder shall provide to Canada, in lieu of the Contract Financial Security and within such time frame as Canada may specify in writing, a duly executed Guarantee, in the form provided at Annex ”H” Part 2, from a corporate entity whose financial covenant is acceptable to Canada, in its sole discretion. Such Guarantee must be provided at no cost to Canada. Nothing in this paragraph shall be considered a waiver of the Bidder's obligation to comply with the requirements of paragraph 6.4.1. If the Bidder wishes Canada to consider waiving the requirement to provide Contract Financial Security, the Bidder should provide evidence, with its bid, that it can provide the Guarantee described in Annex “H” Part 2 by including with its Proposal a letter signed by the proposed Guarantor agreeing to provide the Guarantee on the terms set out in Annex “H” Part 2. Within fifteen (15) working days of a request therefor by the Contracting Authority, a bidder shall also provide to the Contracting Authority any financial information related to the proposed Guarantor that the Contracting Authority may request, including, without limitation, any of the financial information described in Annex “H” Part 2 PERFORMANCE BOND (a) to (e) in respect of the proposed Guarantor.

PART 7 - RESULTING CONTRACT CLAUSES

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

7.1 Requirement

The Contractor must perform the Work in accordance with the Contract. The Work includes the construction from a proven design, the outfit, tests, trials, demonstration, certification, acceptance and delivery of four (4) Naval Large Tugs and the associated technical data, training and on-board and two (2) year operational spares as specified herein.

The Contractor must deliver four (4) Naval Large Tugs (NLT). The vessels must be upright, stable, seaworthy, and afloat alongside and ready for Acceptance by Canada at the delivery points named below, having achieved Provisional Acceptance at the Contractor's shipyard prior thereto. Provisional Acceptance means, successful Provisional Acceptance at the Contractor's facility, that is, complete in all respects ready for shipping with all respective tests and trials and demonstrations and certifications successfully completed to the satisfaction of the Inspection Authority (IA), Contracting Authority (CA) and Technical Authority (TA) and in accordance with the Contract. The Contractor must deliver for Acceptance by Canada, (Provisional Acceptance having been achieved prior thereto) as follows:

a) Two (2) NLT's delivered to the Department of National Defence, CFB Esquimalt, Esquimalt, British Columbia requested on or before 24 months following completion of Milestone 2 – Critical Design Review

b) Two (2) NLT's delivered to the Department of National Defence, CFB Halifax, Halifax, Nova Scotia requested on or before 42 months following completion of Milestone 2 – Critical Design Review.

The vessels must be delivered with no more than 500 hours on the main engines.
The vessels shall not be towed from the shipyard to the delivery points listed above.

7.1.1 Communications Notification

Canada has no specific requirements for any ceremonies or events in addition to those that the Contractor may hold for their own purposes, however the Contractor should allow for one ceremony early in the Work schedule for the purposes of Canada.

The Contractor must notify Canada of any planned ceremonies or events that concern any of the Work for this contract and provide Canada with the opportunity to have up to twenty (20) guests attend each planned ceremony or event. Examples of such ceremonies or events include first steel cutting, 'keel' laying, and launching. The Contractor must inform Canada of any planned ceremony or event as early as is reasonably possible to allow Canada to coordinate attendance. If the Contractor wishes to have Senior Executives (e.g. Deputy Minister level or higher) from Canada attend any ceremony or event, then Canada must receive notice of the planned date at least 90 days in advance of the ceremony or event.

7.2 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.

7.2.1 General Conditions

2030 (2016-04-04), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

7.2.2 Supplemental General Conditions

7.2.2.1 1028 (2010-08-16), Ship Construction – Firm Price, apply to and form part of the Contract.

The Supplemental General Conditions 1028, Article 12 – Warranty, paragraph 3 is deleted and replaced with the following:

The warranty period for each Vessel is twelve (12) months from the date of its delivery to and acceptance by Canada. However, the warranty period for each hull is two (2) years from the date of the Vessel's delivery to and acceptance by Canada. For each of the vessels, the entire mechanical and electrical components of the power train, power train resilient mountings and any sub-bases incorporated into the propulsion engine or gearing arrangements shall have a 2-year warranty which commences from acceptance of the vessel by Canada.

7.2.2.2 4006 (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information.

7.2.3 Contract Cost Principles

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

7.3 Security Requirements

There is no security requirement applicable to the Contract.

7.4 Term of Contract

7.4.1 Period of the Contract

The period of the Contract is from the Contract Award date to two (2) years after delivery and acceptance of the last vessel/tug.

7.4.2 Delivery Date

All the deliverables for the first two vessels including the vessels, TDP, on-board and two (2) year operational spares and training must be received at the final destination on or before 24 months following completion of Milestone 2 – Critical Design Review.

All the deliverables for the third and fourth vessels including the vessels, TDP, on- board and two (2) year operational spares and training must be received on or before 42 months following completion of Milestone 2 – Critical Design Review.

7.4.5 Delivery Points

Delivery of the requirement will be made to delivery point(s) specified at article 7.1 of the Contract.

7.5 Authorities

7.5.1 Contracting Authority

Name: Brenda Lamothe
Title: Supply Team Leader
Public Services and Procurement Canada,
Marine Services & Small Vessels Sector,
Small Vessel Construction Division
Address: 6C2, Place du Portage, Phase III

11 Laurier Street
Gatineau, QC. K1A 0S5 CANADA
Telephone: 819-420-2916
E-mail: brenda.lamothe@tpsgc-pwgsc.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.

7.5.2 Technical Authority *(information will be provided at contract award)*

The Technical Authority for the Contract is:

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone: ___-___-_____
E-mail address: _____

The Technical Authority 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.

7.5.3 Inspection Authority *(information will be provided at contract award)*

The Inspection Authority for the Contract is:

Name:
Title:
Address:

Telephone:
E-mail address:

The Inspection Authority is the representative of the department or agency for whom the Work is being performed under the Contract and is responsible for inspection of the Work and acceptance of the finished work. The Inspection Authority may be represented on-site by a designated inspector and any other Government of Canada inspector who may from time to time be assigned in support of the designated Inspector.

7.5.4 Aboriginal Participation Component Authority *(information will be provided at contract award)*

The Aboriginal Participation Component (APC) Authority for the Contract is:

Name: _____
Title: _____
Organization: Department of Crown-Indigenous Relations and Northern Affairs (CIRNA)/Department of Indigenous Services Canada (DISC)

Address: 10 Wellington Street,

11th Floor. Room 1105,
GATINEAU, Quebec K1A 0H4
Telephone: _____
Facsimile: _____
E-mail address: _____

The APC Authority (or their delegated representative), as designated Department of Crown-Indigenous Relations and Northern Affairs (CIRNA)/Department of Indigenous Services Canada (DISC) is the person who is responsible for issues relating to the APC requirements under this Contract.

7.5.5 **Innovation, Science and Economic Development Canada Authority** (*information will be provided at contract award*)

The Innovation, Science and Economic Development Canada (ISED) Authority for the Contract is:

Name: _____
Title: _____
Organization: Department of Innovation, Science and Economic Development Canada
Address:

Telephone: _____
Facsimile: _____
E-mail address: _____

The ISED Authority (or their delegated representative), as designated Department of Innovation, Science and Economic Development Canada (ISED) is the person who is responsible for issues relating to the Economic Leveraging requirements under this Contract.

7.5.6 Contractor's Representative

Name:
Title:
Telephone:
E-mail address:

7.5.7 Delegation

Each of the Authorities referred to above may from time to time delegate its responsibilities in whole or in part under this Contract and may act through its authorized representative. To be effective, such delegation shall be in writing specifying the nature and extent of the authority given, the name of the representative, with a copy delivered to the Contractor by the Contracting Authority, it being understood that a person to whom responsibilities have been delegated cannot further delegate such responsibilities.

7.5.8 Contractor Project Manager / Representative

The Contractor shall, by written notice to the Contracting Authority, designate the person or persons who may act on behalf of and with the authority of the Contractor under this Contract. The Contractor's designated person or persons shall have the right to delegate their authority and to act through their duly appointed representative. To be effective, such delegation shall be in writing specifying the nature and extent of the authority given, the name of the representative, with a copy delivered to Canada through the Contracting Authority, it being understood that a person to whom responsibilities have been delegated cannot further delegate such responsibilities.

7.6 Payment

7.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid *firm unit prices, as specified in Annex "B" for a cost of $ _____ (Canadian Dollars Only)(to be inserted at contract award*). Customs duties are included and Applicable Taxes are extra.

7.6.1.1 Milestone Payments

Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract at Annex "B" and the payment provisions of the Contract if:

a. an accurate and complete claim for payment using 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. all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;

c. all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

7.6.2 Limitation of Price

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.

7.6.3 Payment for Fuels, Oils and Lubricants

The Contractor must supply all fuel, lubricating oil, hydraulic oil and other lubricants sufficient for fully charging all systems as required for operating the machinery and other equipment and for performing all tests and trials at the cost of the contractor.

7.6.4 Field Engineering and Supervisory Services

If Field Service Representatives (FSR) and/or Supervisory Services are required for the Work, the cost of all such services must be included in the price for the Work.

7.7 Invoicing Instructions

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

2. 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.

3. Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.

4. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to Canada, identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place. Canada will then forward the original and two (2) copies of the claim certification and onward submission to the Payment Office for the remaining certification and payment action.

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

7.8 Certifications and Additional Information

7.8.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

7.8.2 Welding Certification

1. The Contractor must ensure that welding is performed by a welder certified by the Canadian Welding Bureau (CWB) in accordance with the requirements of the following Canadian Standards Association (CSA) standards: CSA W47.1, Certification of Companies for Fusion Welding of Steel.

7.8.3 Workers Compensation

The Contractor must maintain its account in good standing with the applicable provincial or territorial Workers' Compensation Board for the duration of the Contract.

7.8.4 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.

7.9 Project Schedule

1. The Contractor must provide a detailed project schedule in accordance with Annex “A” SRD and SOW, CDRL-M-002, DID-M-002 Master Plan and Schedule.

2. The schedule is to be regularly updated and available in the Contractor's office for review by Canada's authorities to determine the progress of the Work.

7.10 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

7.11 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 1028 (2010-08-16), Ship Construction – Firm Price;
(c) the supplemental general conditions 4006 (2010-08-16), Contractor to own Intellectual Property Rights in Foreground Information;
(d) the general conditions 2030 (2016-04-04), General Conditions - Higher Complexity - Goods;
(e) the 1031-2 (2012-07-16), Contract Cost Principles;
(f) Annex “A”, Statement of Work / System Requirement Document;
(g) Annex “B”, Basis of Payment;
(h) Annex “C”, Subcontractors;
(i) Annex “D”, Bidders Questions and Canada’s Responses;
(j) Annex “E”, Insurance Requirement;
(k) Annex “F”, Inspection / Quality Assurance / Quality Control;
(l) Annex “H”, Contract Financial Security
(m) Annex “K”, General Information on Aboriginal Participation Component (APC);
(n) Annex “L”, To Be Included in the Aboriginal Participation Component (APC) Plan;
(o) Annex “M”;
Form 1 - Certifications for the Aboriginal Business;
Form 2 – Aboriginal Owner/Aboriginal Employee or Aboriginal Subcontractor Certification;
(p) Annex “N”, APC Commitments and Achievements Table;
(q) Annex “P” Economic Leveraging Reports; and
(r) the Contractor's bid dated _’TBD’_____ .

7.12 Defence Contract

SACC Manual clause A9006C (2012-07-16) Defence Contract

7.13 Trade Qualifications

The Contractor must use qualified, certified (where applicable) and competent tradespeople and supervision to ensure a uniform high level of workmanship. The Contracting Authority may request to view and record details of the certification and/or qualifications held by the Contractor's tradespeople.

7.14 Quality Management Systems

1. The Contractor must have in place during the performance of the work, a Quality Assurance Program developed in accordance with Annex “A” SRD and SOW, CDRL-M-003, DID-M-003 Quality Management Plan and approved by Canada during the performance of the Work in accordance with DID-M-003.

2. The Contractor's facilities may be audited by Canada, or its authorized representative, during the performance of the Work to ensure that the approved quality system is in place and in accordance with the foregoing requirement.

3. The Contractor will be required to submit completed quality assurance documentation with each claim for payment as applicable.

7.15 Contract Kick-off Meeting

Within **five (5) working days** of the receipt of the contract, the Contractor must contact the Contracting Authority to confirm the scheduling of the Contract Kick-off meeting. The meeting shall be in accordance with the Annex “A” SRD and SOW, CDRL-M-007, DID-M-007 Kick-off Meeting. The meeting will be held at the Contractor's facility. Cost of holding the meeting must be included in the price of the bid. Please note that the travel and living expenses for Government Personnel will be arranged and paid for by Canada.

7.16 Technical Data Package and Technical Data Management Plan

1. The Contractor must develop and deliver to the Technical Authority for acceptance a Technical Data Management Plan in accordance with Annex “A” SRD and SOW, CDRL M-005, DID-M-005. The contractor must develop and deliver to the Technical Authority for acceptance a Technical Data Package in accordance with Annex “A” SRD and SOW, CDRL ILS-003, DID-ILS-003. All drawings, reports, Data Books, Operating Instruction Books, Maintenance Manuals and Spare Parts Lists (including part numbers and ordering instructions) for all machinery and equipment fitted on the vessel(s) as required in Annex “A”, SRD and SOW must be submitted to Canada for review and acceptance. Once approved by the TA, the Contractor will provide copies in accordance with and as specified in Annex “A”, SRD and SOW.

2. Where manuals are examined by Canada, such examination does not relieve the Contractor of any responsibility under the Contract for ensuring the correctness of all details and adequacy of performance of the vessel(s), nor does it obligate Canada to accept, in part or in whole, an item of work completed in accordance with such manual, nor does it mean such an item of work meets the requirements of Annex “A”, SRD and SOW.

7.17 Insurance Requirements

1. The Contractor must comply with the insurance requirements specified in **Annex “E”.** 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.

2. The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill 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.

3. 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. Coverage must be placed with an Insurer licensed to carry out business in Canada. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

7.18 *SACC Manual* Clauses

A9047C – Title to Property – Vessel, 2008-05-12
B4075C - Welding Certification – Contract, 2016-01-28
B9035C - Progress Meetings, 2008-05-12
B5007C - Procedures for Design Change or Additional Work, 2010-01-11
D3015C - Dangerous Goods/Hazardous Products – Labelling and Packaging Compliance, 2014-09-25
D0018C - Delivery and Unloading, 2007-11-30
C0711C - Time Verification, 2008-05-12
H4500C - Lien - Section 427 of the Bank Act, 2010-01-11
C2801C 2014-11-27, Priority Rating - Canadian-based Contractors
D2000C 2007-11-30, Marking
D2001C 2007-11-30, Labelling

D5510C – Quality Assurance Authority (Department of National Defence) – Canadian-based Contractor – 2014-06-26
D5606C – Release Documents (Department of National Defence) – Canadian – based Contractor, 2012-07-16
D2025C – Wood Packaging Material – 2017-08-17
D6010C – Palletization – 2007-11-30

7.19 Release Documents – Distribution

The Contractor must prepare the release documents in a current electronic format and distribute them as follows:

a. One (1) copy mailed to consignee marked: "Attention: Receipts Officer";

b. Two (2) copies with shipment (in a waterproof envelope) to the consignee;

c. One (1) copy to the Contracting Authority;

d. One (1) copy to:

National Defence Headquarters
Mgen George R. Pearkes Building
101 Colonel By Drive
Ottawa, ON K1A OK2
Attention: _____

e. One (1) copy to the Quality Assurance Representative;

f. One (1) copy to the Contractor; and

g. For all non-Canadian contractors, one (1) copy to:

DQA/Contract Administration
National Defence Headquarters
Mgen George R. Pearkes Building
101 Colonel By Drive
Ottawa, ON K1A OK2

E-mail: ContractAdmin.DQA@forces.gc.ca.

7.20 Provisional Acceptance, Acceptance and Delivery Schedule

7.20.1 Naval Large Tugs

The Contractor must deliver the Naval Large Tugs (NLT). The Boats must be upright, stable, seaworthy, and afloat alongside and ready for Acceptance by Canada at the delivery points named in this Contract, having achieved Provisional Acceptance at the Contractor's shipyard prior thereto.

7.20.2 Provisional Acceptance

Provisional Acceptance means, successful Provisional Acceptance at the Contractor's facility, that is, complete in all respects ready for shipping with all respective tests and trials and demonstrations and certifications successfully completed to the satisfaction of the Inspection Authority (IA), Contracting Authority (CA) and Technical Authority (TA) and in accordance with the Contract.

Upon completion of all tests and trials specified in Annex "A", the Contractor shall submit a certificate of Provisional Acceptance in a format specified by Canada, to be signed by the authorized representative of

the Contractor, the Inspection Authority and the Contracting Authority. In addition, the Inspection Authority will prepare a final list of all outstanding Work items (including non-conformance reports) for review at the Provisional Acceptance Conference and attached to the Provisional Acceptance certificate as an appendix. The list of outstanding Work shall be reviewed to determine if the Vessel is fully operational for their intended service to the satisfaction of Canada. Upon receipt of a signed copy of the Provisional Acceptance certificate by the Contracting Authority, the Contractor shall proceed with delivery of the boat to the specified location for Acceptance by Canada.

After successful Provisional Acceptance at the Contractor's shipyard, the Contractor shall deliver for Acceptance by Canada:

a) Two (2) NLT's delivered to the Department of National Defence, CFB Esquimalt, Esquimalt, British Columbia, requested on or before 24 months following completion of Milestone 2 – Critical Design Review.

b) Two (2) NLT's delivered to the Department of National Defence, CFB Halifax, Halifax, Nova Scotia requested on or before 42 months following completion of Milestone 2 – Critical Design Review.

The vessels must be delivered with no more than 500 hours on the main engines.
The vessels shall not be towed from the shipyard to the delivery points listed above.

7.20.3 Each outstanding Work item on the Acceptance list referred above shall have a price determined in accordance with the following: the higher of twice the cost for the outstanding Work to be completed by the Contractor, or twice the cost for the outstanding Work to be completed as quoted by a third party, and that amount shall be deducted from any payment otherwise due.

7.20.4 It is understood and agreed that where the Work has been substantially completed and the parties have agreed upon the terms and conditions for the Contractor to make good all deficiencies, the certificate may be executed with a statement attached concerning the making good of the deficiencies.

7.20.5 Acceptance of the vessels by the Minister shall occur with a written execution of a certificate in accordance with form PWGSC-TPSGC 1105, with evidence satisfactory to Canada that the Vessels has successfully completed all Tests and Trials and Demonstrations and Certification. The execution of the Certificate shall in no way relieve the Contractor of its obligations under the Contract.

7.21 Work Site Access

a) Authorized representatives of Canada must have access to any site where any part of the Work is being carried out at any time during working hours to make examinations and such tests of the Work as they may deem fit.
b) The Proven Parent In-Service Vessel must be available for the Proven Parent In-Service Vessel Inspection by Canada in accordance with SOW.

7.22 Material Schedule Submission

7.22.1 The Contractor must submit to Canada, a Material Schedule in accordance with Annex "A" SRD and SOW, CDRL-M-002, DID-M-002 Master Plan and Schedule.

7.22.2 The Contractor must provide Canada with a copy of its purchase orders. Up to ten (10) working days is required by Canada for examination of purchase orders. Canada shall advise the Contractor of its decision in respect to each one of the purchase orders.

7.23 Drawings and Purchase Orders during Construction Phase

7.23.1 All drawings and purchase orders shall be submitted to Canada for review and comment.

7.23.2 Any examination of any Contractor's drawings or purchase orders by or on behalf of Canada shall not relieve the Contractor of any responsibility under this Contract and shall not relieve any Subcontractor of any responsibility under any subcontract. In particular, examination or approval of drawings or purchase orders 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 therefrom.

7.24 Additional Work Including Design Change

7.24.1 The Contractor hereby acknowledges that Canada may require the Contractor to perform additional Work at any time and from time to time, during this Contract over and above the Work identified at Annex “A”. The additional Work could include but not be limited to:

(a) Additions or variations to the Work including Design Changes; and
(b) Dispensing with or change to any portion of the Work.

7.24.2 If any additional Work is required, the procedure for processing the "Additional Work" shall be as set out in clause B5007C dated 2010-01-11 and at article 7.40, All negotiations must be completed and the additional Work authorized on form PWGSC - TPSGC 1686 prior to the commencement of the Work, unless and until the Contracting Authority specifically authorizes commencement of the additional Work, in writing, prior to completion of negotiations and completion of form PWGSC - TPSGC 1686.

7.24.3 The Contractor shall perform the additional Work under the same terms and conditions of the Contract. The additional Work will be negotiated using the labor rates and markups contained in the Contract.

7.24.4 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.

7.24.5 Extensions in the delivery date as a result of the approved additional (unscheduled) Work must be presented at the time of the proposal and to the satisfaction of the Contracting Authority, otherwise extensions to the delivery date will not be considered.

7.24.6 No cost additional 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.

7.24.7 Incorporation of Additional Work or Design Changes: Where additional Work including Design Changes has been agreed to by the Parties, the resulting change shall be incorporated into the Work, and:

(a) Be subject to all of the provisions of the Contract;

(b) Not relieve the Contractor of its obligation to ensure that the Vessel meets all of the performance requirements set out in the Systems Requirements Document and shall not affect the delivery date unless otherwise provided for in form PWGSC - TPSGC 1686 relating to such additional work or design change.

7.25 Inspection

7.25.1 All reports, deliverables, documents, goods and all services rendered under this Contract shall be subject to inspection by the Inspection Authority. Should any report, document, good or service not be in accordance with the requirements of the Contract, the Inspection 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.

7.25.2 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 Inspection Authority and the Regulatory Body that the Work is complete, and having been pre-tested or inspected by the Contractor, is ready for formal inspection.

7.25.3 Inspection will be done by the Inspection Authority at the most appropriate location:

(a) For the Vessels, at Contractor's facilities during the construction of the Boat, up to and including Provisional Acceptance of the Boat; and at Canada's facilities for Acceptance; and

(b) For Documentation, unless otherwise specified at Canada's facilities.

7.25.4 Inspection requirements shall be in accordance with the provisions of this Contract including 2030 General Conditions - Higher Complexity - Goods (2015-09-03) and 1028 Ship Construction - Firm Price (2010-08-16) and the following procedures:

(a) Design Drawings

(i) Construction drawings and calculations: Upon receipt of each drawing and the associated technical data by the Inspection Authority and Technical Authority they will be reviewed for their content against the provisions of the Contract. Canada will notify the Contractor in writing of any discrepancies or concerns within fifteen (15) working days of the receipt of the document.

(ii) Upon receipt of each construction drawing and purchase order by the Inspection Authority and Technical Authority, they will be reviewed against the Contract. Canada will notify the Contractor in writing of any discrepancies or concerns within fifteen (15) working days of the receipt of the document.

(b) Inspection during the Construction Phase as carried out by the Inspection Authority will consist of the audit of the Contractor's Quality Control System and records, a series of inspections and the witnessing of tests, trials and demonstrations deemed necessary by the Inspection Authority to verify that the Work has been performed in compliance with the provisions of Annex “A”, SRD and SOW.

(c) Non-conformance Report (NCR): A NCR will be issued for each Non-conformance noted by the Inspection Authority. Each report will be uniquely numbered for reference purposes, will be signed and dated by the Inspection Authority, and will describe the Non-conformance.

(d) When the Non-conformance has been corrected by the Contractor and has been re-inspected and accepted by the Inspection Authority, the Inspection Authority will complete the NCR by adding an appropriate signed and dated notation.

(e) When Acceptance Sea Trials have been successfully completed and the Contractor has corrected and addressed items on the Non-conformance list, an Acceptance Inspection of the boat shall be carried out by the Inspection Authority. Three (3) working days prior to the scheduled Acceptance Date, the

content of all Non-conformance Reports which have not been signed-off by the Inspection Authority will be transferred to the Delivery Document prior to the Inspection Authority certification of such document. A final Deficiencies Database shall be prepared for signature if necessary. Acceptance Certificate of Ship into the Department of National Defence shall be prepared for signature.

(f) The Contractor shall correct all outstanding deficiencies during the warranty period at a time and place agreed to by the Contractor and the Technical Authority and the Contract Authority.

(g) Notwithstanding the above and the inspection by the Inspection 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.

7.26 Tests and Trials

7.26.1 Launching of the Vessels

The Contractor shall be responsible for the safe and satisfactory launching of the Vessels at a time and in a manner agreed upon between the Contractor and Canada. If at any time prior to Acceptance of the Vessel there is reason to believe the underwater portion of the Vessel has been seriously impaired, the Contractor shall place the Vessel in dry-dock and adequately inspect, repair, clean, and paint the damaged areas at its own expense and to the satisfaction of Canada. On completion of the Work, the Contractor shall be responsible for the safe and satisfactory returning the Vessel afloat, alongside and upright at the Contractor’s facility.

7.26.2 Tests, Trials and Demonstrations

(a) All tests, trials and demonstrations must be performed in accordance with Annex “A” SRD and SOW and Annex “F” Inspection/Quality Assurance/Quality Control.

(b) The Contractor shall in all respects be responsible for the conduct of all Tests and Trials and Demonstrations in accordance with the requirements of this Contract.

(c) The Contractor must keep written records of all tests, trials, and demonstrations conducted as required by the QA System.

(d) Canada reserves the right to defer starting or, continuing with any Sea Trials for any reasonable cause including but not limited to adverse weather visibility, equipment failure or degradation, lack of qualified personnel and inadequate safety standards.

(e) The Contractor shall dry-dock the Vessel on successful completion of Acceptance Trials for underwater inspection and final approval by the Inspection Authority and Technical Authority prior to acceptance of each boat. On completion of the Work, the Contractor shall be responsible for the safe and satisfactory returning the boat to afloat, alongside and upright at the Contractor’s facility.

7.27 Certificates

7.27.1 The Contractor must obtain and deliver to Canada in the name of the Owner all the usual and all the relevant certificates for the proper and safe operation of the Boat in accordance with Annex “A”, SRD and SOW.

7.27.2 All costs associated with obtaining certificates referred to in sub-clause 7.27.1 above are included in the "Contract Price".

7.28 Government Supplied Material

No Government Supplied Material

7.29 Failure to Deliver

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

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

a. Contract Termination in accordance with 2030 General Conditions Sections 10 (Time of the Essence) and 31 (Default by the Contractor); or

b. Consideration for Contract Amendment. Delivery date(s) will not be extended without consideration being provided by the Contractor in the form of adjustment to the price, warranty, quantity and / or service to be provided.

7.30 Total System Responsibility

The Contractor shall have Total System Responsibility (TSR) for the work performed by and on behalf of the Contractor under the Contract. TSR includes but is not limited to:

(a) system design and total system integration which includes the task of aggregating, interconnecting, setting-to-work, testing, trials and making compatible all the Systems and Deliverables, including their associated software, so as to fulfill the performance and other requirements described in Annex "A", System Requirements Documents; and

(b) placement and management of sub-contractors; and

(c) ensuring that documentation and publications are sufficient to permit operation and maintenance of the systems and the equipment which they depict; and

(d) all other work required to ensure the Vessels are fully functional and meets the requirements of the Contract.

7.31 Welding Personnel

Prior to the commencement of the Work, the Contractor must provide to the Inspection Authority a list of welding personnel intended to be used in the boat construction. The list is to identify the Canadian Standard Association (CSA), or equivalent welding qualifications attained by each of the personnel listed and is to be accompanied by each person's current CSA, or equivalent welding ticket.

7.32 Maintenance and Operator's Manual

The Contractor shall supply maintenance and operator's manual, with the Vessels in accordance with the requirements of Annex "A" SRD and SOW. The Price of all operator's manuals shall be included with the Contract Price.

7.33 Preliminary Design Review and Critical Design Review

7.33.1 The Contractor shall conduct a Preliminary Design Review (PDR) and Critical Design Review (CDR) in accordance with Annex “A” SRD and SOW to ensure that the Vessels upon completion of the Work will meet fully the performance and other requirements and that the space established in the design is sufficient for all equipment, stores, crew, liquids, etc.

7.33.2 Upon completion of the PDR and CDR, the Contractor shall:

(a) Provide the Contracting Authority with a written statement in which the Contractor shall provide its acceptance and guarantee that the design is sufficient to allow the Vessel when completed to perform fully in accordance with the Contract including Annex “A” SRD and SOW; or

(b) advise the Contracting Authority in writing that the design is defective or deficient and the reasons therefor.

7.33.3 No later than ten (10) working days after having received any statements mentioned in sub-article 7.33.2 (a) or (b), Canada shall notify the Contractor of the acceptance of the statements.

7.33.4 Upon provision of the statement at 7.33.2 (a), the Contractor shall be liable for all additional costs which may be required to complete the Work.

7.33.5 In accordance with the Contractor's Proposal dated _____, the Naval Large Tugs are to be built from a Proven Parent Design. Where the Contractor alleges and Canada agrees that the design is defective or deficient, the parties to the Contract shall endeavor to negotiate an agreement for a correction to the design.

7.33.6 Where the Contractor alleges the design is defective or deficient, and Canada does not agree or if within forty (40) calendar days of Contract award no agreement on the correction to the design, Canada may by written notice to the Contractor terminate the Contract. Upon such termination Canada shall be liable to the Contractor only for its costs of conducting the PDR and CDR. Such costs shall be determined in accordance with PWGSC - TPSGC Contract Cost Principles 1031-2 up to the maximum amount of the associated milestone.

7.33.7 Where the parties to the Contract can reach agreement on correcting the design, changes to the Naval Large Tugs, and to all other contracted items affected, and all cost thereof, the Contractor shall be responsible for completing the Work in accordance with the Contract.

7.33.8 After reaching agreement as referred to in sub-clause 7.33.6 above, the Contractor shall provide a written statement as described in sub-clause 7.33.1 (a) above.

7.33.9 The Contractor shall not incur Material and Labour Costs until a written statement, as set out in sub-clause 7.33.2 (a) above, has been provided and this statement has been accepted as valid by the Contracting Authority.

7.34 Contract Financial Security

7.34.1 The Contractor must provide Contract Financial Security as required by Annex “H”, Part 1 within fourteen (14) calendar days of Contract Award. If Canada does not receive the required Contract Financial Security within that time, Canada may terminate the Contract for default pursuant to the Contract default provisions.

7.34.2 Canada may, in its sole discretion, prior to or after Contract award and before the Contractor has delivered the Contract Financial Security under the Contract, waive the requirement under Article 7.34.1

to provide Contract Financial Security, in which event the Contract Price will be reduced by the amount of the cost to the Contractor of the Contract Financial Security as specified in Annex "B" Line Item Pricing, and the Contractor shall provide to Canada, in lieu of the Contract Financial Security and within such time frame as Canada may specify in writing, a duly executed Guarantee, in the form provided at Annex ”H” Part 2, from a corporate entity whose financial covenant is acceptable to Canada, in its sole discretion. Such Guarantee must be provided at no cost to Canada.

7.35 Canada Shipping Act, 2001

The Contractor shall co-operate with Canada in the recording and registration procedures set out in Part I of the *Canada Shipping Act, 2001.* All certificates and necessary exemptions for a boat of this type and Voyage Class shall be provided.

7.36 Boat – Access by Canada

Canada reserves the right to carry out limited work by its personnel on equipment on board the Vessel. Such work will be carried out at times mutually acceptable to Canada and to the Contractor.

7.37 Limitation of Liability

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, 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 nor include:

(a) Any infringement of intellectual property rights;

(b) Any breach of warranty obligations;

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

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

3. Each Party agrees that it is fully liable for any damages that it causes to any third party in connection with the Contract, regardless of whether the third party makes its claim against Canada or the Contractor. If Canada is required, as a result of joint and several liability, to pay a third party in respect of damages caused by the Contractor, the Contractor must reimburse Canada for that amount.

4. The Parties agree that nothing herein is intended to limit any insurable interest of the Contractor nor to limit the amounts otherwise recoverable under any insurance policy. The Parties agree that to the extent that the insurance coverage required to be maintained by the Contractor under this Contract or any additional insurance coverage maintained by the Contractor, whichever is greater, is more than the limitations of liability described in sub article (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. 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.

7.38 Aboriginal Participation Component

(a) The Contractor must comply with the Aboriginal Participation Component (APC) as detailed in Annex "J", (Part 1 & Part 2), "K", "L", "M" (Forms 1 and 2) and "N".

(b) The Contractor warrants that the certification of compliance with the definition of an Aboriginal business set out in the Requirements for the Set-aside Program for Aboriginal Business submitted by the Contractor is accurate and complete, as detailed in Annex "M", Form 1 and Form 2.

(c) The Contractor must keep proper records and documentation relating to the accuracy of the certification provided to Canada. The Contractor must not, without obtaining prior written consent of the Contracting Authority, dispose of any such records or documentation supporting the accuracy of the certification until the expiration of six years after final payment under the Contract, or until settlement of all outstanding claims and disputes, resulting from a dispute under the Contract, whichever is later. All such records and documentation must at all times during the retention period be open to audit, inspection and examination by representatives of Canada, who may make copies and take extracts. The Contractor must provide all facilities for such audits, inspections and examinations, and must furnish all such information as the representatives of Canada may from time to time require with respect to such records and documentation.

(d) Nothing in this clause must be interpreted as limiting the rights and remedies which Canada may otherwise have pursuant to the Contract.

7.39 Economic Leveraging

7.39.1 INTERPRETATION:

For the purposes of Article 7.39 Economic Leveraging,

"Canadian" means Canadian citizens, and permanent residents as defined in the *Immigration and Refugee Protection Act 2001, c.27.*

"Canadian Content" means the value of a product or service that involves Canadian costs, using the methods outlined in Annex "O".

7**.39.2 Economic LEVERAGING Obligation**

1. For each year during the term of the Contract,:
    a. at least 90% of the workforce carrying out the Work must be Canadian; and
    b. at least 30% of the materials and equipment used in carrying out the Work must contain Canadian Content.

7.39.3 Reporting Requirement

1. The Contractor must provide attestation using the form in Annex "P" on the results of the obligation contained in Article 7.39.2 30 days after the delivery of the first and third vessel,

2. Canada reserves the right to review compliance with the obligation at 7.39.2

2.1. If and when Canada notifies the Contractor in writing that a review will occur, then within 30 days of the written notification, the Contractor must provide copies of records that demonstrate the work performed by Canadians and the level of Canadian Content, under the Contract to the ISED Authority. To support the review, the Contractor will keep all relevant records that could be used as evidence to provide to Canada, of work performed by Canadians and Canadian Content, until the expiration of three (3) years after final payment under the Contract, or until settlement of all outstanding claims and disputes under the Contract, whichever is later. All such records and documentation must at all times during the retention period be open to audit, inspection and examination by the representatives of Canada, who may make copies and take extracts. The Contractor must provide all facilities for such audits, inspections and examinations, and must furnish all such information as the representatives of Canada may from time to time require with respect to such records and documentation. Nothing in this clause must be interpreted as limiting the rights and remedies which Canada may otherwise have pursuant to this Contract.

7.40 Procedures for Design Change or Additional Work (B5007C) 2010-01-11

These procedures must be followed for any design change or additional work.

1. When Canada requests design change or additional work:

    a. The Technical Authority will provide the Contracting Authority with a description of the design change or additional work in sufficient detail to allow the Contractor to provide the following information:

        i. any impact of the design change or additional work on the requirement of the Contract;

        ii. a price breakdown of the cost (increase or decrease) associated with the implementation of the design change or the performance of the additional work using either the form PWGSC-TPSGC 1686, Quotation for Design Change or Additional Work, or the form PWGSC-TPSGC 1379 (PDF 56KB) - (Help on File Formats) Work Arising or New Work.

        iii. a schedule to implement the design change or to perform the additional work and the impact on the contract delivery schedule.

    b. The Contracting Authority will then forward this information to the Contractor.

    c. The Contractor will return the completed form to the Contracting Authority for evaluation and negotiation. Once agreement has been reached, the form must be signed by all parties in the appropriate signature blocks. This constitutes the written authorization for the Contractor to proceed with the work, and the Contract will be amended accordingly.

2. When the Contractor requests design change or additional work:

    a. The Contractor must provide the Contracting Authority with a request for design change or additional work in sufficient detail for review by Canada.

    b. The Contracting Authority will forward the request to the Technical Authority for review.

c. If Canada agrees that a design change or additional work is required, then the procedures detailed in paragraph 1 are to be followed.

d. The Contracting Authority will inform the Contractor in writing if Canada determines that the design change or additional work is not required.

3. Approval
The Contractor must not proceed with any design change or additional work without the written authorization of the Contracting Authority. Any work performed without the Contracting Authority's written authorization will be considered outside the scope of the Contract and no payment will be made for such work.

ANNEX “A”

STATEMENT OF WORK / SYSTEM REQUIREMENTS DOCUMENT

See attached as a separate document

ANNEX "B"

BASIS OF PAYMENT

Price Evaluation

All firm prices and hourly rates must be in Canadian dollars, Canadian customs duty and excise tax included, Incoterms 2000 Delivered Duty Paid (DDP) to the delivery points identified, GST and HST extra, as applicable.

Price Table 1

		Column A	**Column B**	**Column C (=A X B)**
Item #	**Description**	**Unit Price CDN$**	**Quantity**	**Total per Item CDN$**
1	Naval Large Tug	$	4	$
2	Transportation Cost per Tug to CFB Esquimalt	$	2	$
3	Transportation Cost per Tug to CFB Halifax	$	2	$
4	Technical Data Package for all vessels	$	4	$
5	Training for all vessels	$	4	$
6	Two (2) year operational spares for all vessels	$	4	$
Subtotal A	Total Contract Price (sum column A item #1-#6) and (sum column C item #1-#6)	$	4	$
7	Cost of Contract Financial Security	$	1	$
Subtotal B	Total Proposed Contract Price (sum column A subtotal A + item #7) and (sum column C subtotal A + item #7)	$	4	$
	The indicated number # of hours for items 8, 9, 10, 11 and 12 below are for evaluation purposes only. The Hourly Rate is a firm rate for the duration of the contract.			
Item #	**Description**	**Hourly Rate CDN$**	**Quantity hrs**	**Total per Item CDN$**
8	Engineering Services	$	100	$
9	Foreperson	$	100	$

10	General Labour	$	100	$
11	Supervision	$	100	$
12	Administrator	$	100	$
	Total Evaluated Price (Sum of subtotal B plus items #8-12)			$

1. Charge-out Rate / Material Mark-up

The following rates are included in the Basis of Payment and must remain valid for the duration of the contract:

The Charge-out Rates specified below include; Engineering services, Foreperson, General Labour, Supervision, Administrator and must be inclusive of all overheads and profit. The Charge-out Rates will be used for pricing unscheduled work that results in an increase or decrease during the Work Period, except as noted in the clause entitled "Overtime."

Rates as per Price Table 1

Description	**Hourly Rate CDN$ (A)**
Engineering Services	$
Foreperson	$
General Labour	$
Supervision	$
Administrator	$

The cost of material must be the net laid-down cost of the material to which must be added a mark-up of 10% of the net laid-down cost of the material. For the purposes of pricing, Unscheduled Work and material must be deemed to include subcontracts.

2. Overtime:
In the event Canada authorizes overtime for Unscheduled Work, the applicable overtime rates as defined below shall be applied to the hourly rates found in section 1. Charge-out Rate / Material Mark-up , GST/HST extra, as applicable.

Overtime is defined as:

Regular time is defined as an 8 hour work day or in accordance with current employment contract;
Overtime Time and One-Half Rate (1.5x the hourly rate (A) found in section 1 above is defined as time in excess of the regular time; and
Overtime Double Time Rate (2.0 x the hourly rate (A) found in section 1 above if applicable under current employment contract.

3. Labor Rates for Additional Work including Design Change

For the performance of the Work as a result of approved additional Work including Design, or Engineering Change, Foreperson, General Labour, Supervision, Administrator or change in the scope of Work, the

Contractor shall be paid the firm hourly charge-out rate as detailed in section 1. Charge-out Rate / Material Mark-up, GST/HST extra, as applicable.

The firm hourly charge-out labour rates will remain firm for the term of the Contract and any subsequent amendments.

4. Material for Additional Work including Design Change

For the performance of the Work to procure additional Material as a result of approved additional Work including Design Change or change in the scope of Work, the Contractor shall be paid the Direct Material Cost as defined in Contract Cost Principles 1031-2 plus a firm mark-up of 10% GST/HST extra, as applicable. Other than the 10% mark-up, no additional charges relating to material procurement, insurance, handling, store keeping and activities of this nature, or any other charge whatsoever, will be accepted as part of the additional Work prices.

The material mark-up rate will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Charge-out Labour Rate. The Contractor will not be entitled to a separate labour component for the purchase and handling of materials or subcontract administration.

The material mark-up rate will remain firm for the term of the Contract and any subsequent amendments.

5. Payment for Additional Work including Design Change

The Contractor may claim payment for Additional Work including Design Change where the Work involved in the additional Work or Design Change has been initiated, fully in accordance with the provisions of the Contract. Each additional Work package or Design Change is to be divided over the entire Contract period proportionately to each payment set out in the Contract. Payment for Additional Work or Design Change shall be subject to the same conditions herein.

MILESTONE PAYMENT SCHEDULE

The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

The percentage payments in Milestone No. 1 and 2 will be applied to the Contract Total Per Item (Subtotal A Column C) from Price Table 1. Milestone No. 3 is the cost for Financial Security total only as submitted in Price Table 1 (Column C #-7). All other Milestones 4.1 to 15.4 are to be applied to (subtotal A Column 'A') of Price Table 1. *(Example…The acceptance of Milestones 5.1 to 5.4. will result in a payment equal to 8% of the price at subtotal A from Column 'A' of Price Table 1)*

Contract Total as per Pricing Table 1 Subtotal B Column C: $_____

Milestone No.	Description or deliverable(s)	%	Firm Unit Price (Applicable Taxes Extra)	Total Firm Price (Applicable Taxes Extra)
1	Preliminary Design Review completed and accepted by Canada	2%		
2	Critical Design Review completed and accepted by Canada	4%		
3	Cost of Financial Security-reviewed and accepted by Canada			

4.1 to 4.4	Delivery of material to shipyard – 90% of structural steel by weight	12%		
5.1 to 5.4	Delivery of Propulsion Machinery by ship set to shipyard - prime mover to propulsor inclusive	8%		
6.1 to 6.4	Delivery of Electrical Equipment Package by ship set to shipyard – generator sets and main switchboard.	6%		
7.1 to 7.4	Hull, deck and wheelhouse enclosed and accepted by Canada	10%		
8.1 to 8.4	Prime movers installed and accepted by Canada.	10%		
9.1 to 9.4	Vessel launched, all Test and Trials completed and accepted by Canada	15%		
10.1 to 10.4	Provisional Acceptance complete and accepted by Canada	5%		
11.1 to 11.4	Delivery and Acceptance of vessels at respective CFB bases	15%		
12.1 to 12.4	Delivery of two (2) year operational spares	2%		
13.1 to 13.4	All Technical Data Package elements delivered and accepted by Canada	3%		
14.1.to 14.4	All Training completed and accepted by Canada.	3%		
15.1 to 15.4	Completion of the 12 month warranty period	4%		
16.a	Completion of Aboriginal Voluntary Set A-side report which demonstrates 0.5% of the Contract Price which has been met and the reports are accepted by Canada	0.50%		
16.b	Completion of Aboriginal Voluntary Set A-side report which demonstrates a full 1.0% of the Contract Price which has been met and the reports are accepted by Canada	0.50%		

The Milestones shown above will be included and identified in all production schedules. Milestone Payment Claims may be submitted per ship if all requirements for the milestone payment have been completed and accepted by Canada.

The respective payments for the vessels delivered, **Milestones 11.1 to 11.4** will be payable by Canada upon delivery and acceptance of the Vessel by Canada, minus the holdback for double the total estimated value of any outstanding Work items as explained at section 7.20.3.

The Holdback for outstanding Work will be payable by Canada upon completion of the outstanding Work and when the Work is accepted by Canada.

The respective payments for completion of the twelve(12) month warranty period, **Milestones 15.1 to 15.4** will be payable by Canada upon completion of the warranty period of each Vessel, minus the total cost of any Work undertaken by Canada to repair any defects subject to warranty.

Note: Technical Manuals will not be returned once approved.

6. Expenditure, Limitation - Contract

Canada's total liability under this Contract shall not exceed $_TBD_, Goods and Services Tax or Harmonized Sales Tax (GST/HST) extra, as appropriate.

No increase in the total liability of Canada or in the price of Work resulting from any design changes, modifications or interpretations of Annex “A”, made by the Contractor, will be authorized or paid to the Contractor unless such changes, modifications or interpretations, have been approved, in writing, by the Contracting Authority, prior to their incorporation into the Work. The Contractor shall not be obliged to perform any Work or provide any service that would cause the total liability of Canada to be exceeded without the prior written approval of the Contracting Authority.

Cost Breakdown

1. Bidders must include with their financial bid a cost breakdown of its bid price for the Work. Each item of work or services in below from Annex “A”, is to be priced individually to indicate labour, material, overhead and profit.

2. The cost breakdown must itemize all costs included in its price for the Work in accordance with the Bidder's cost accounting or cost schedule system. Alternatively, Bidders may complete the attached **Annex "B"** which is the minimum amount of information required.

3. The information submitted as a mandatory item will be held as confidential business information. The details of this information may be used for contractual evaluation purposes and/or contract administration purposes.

Sect.of SRD	Description	Labour	Material	Overhead & Profit	Total
100 Hull Structures					
200 Propulsion Systems					
300 Electrical Plant					
400 Command and Surveillance					
500 Auxiliary Systems					
600 Outfit and Furnishings					

Sect.of SRD	Description	Labour	Material	Overhead & Profit	Total
On Board Spares (only)					
Two (2) year operational spares					
Training					
Technical Data Package					
	TOTAL				

ANNEX “C”

SUBCONTRACTORS

List of subcontractors for labour and material over $50,000.00 must be included with the Bidder’s Proposal, stating the name and address of each subcontractor, and a description (Make, Model No.) of the goods or services to be supplied.

Systems Requirement Document Item	Description of Goods/Services (Incl. Make, Model Number as applicable)	Name of Subcontractor	Address of Subcontractor

ANNEX “D”

BIDDER’S QUESTIONS AND CANADA’S RESPONSES

ANNEX "E"

INSURANCE REQUIREMENTS

Ship Builders Risk Insurance

The Contractor shall enter into a contract of insurance issued in the joint names of the Contractor and Canada as their respective interests may appear in the standard form of Marine Builder's Risk Policy to provide full indemnification to Canada for any loss or damage to the vessel or any other materials which are the property of Canada for installation in the vessel in the custody of the Contractor or any claim or expenses to Canada as aforesaid for which the Contractor assumes responsibility hereunder, and the premium or cost of such insurance coverage shall be incorporated into and form part of the purchase price.

Notice of Cancellation: The insurer shall provide to the Contracting Authority at least thirty (30) days prior written notice of any policy cancellation or any adverse material changes in the policy coverage.

Settlement of Claims: Insurance proceeds from any loss or damage to government property must be payable to the appropriate party, as directed by the Contracting Authority.

Marine Liability Insurance, G5003C (2017-08-17)

1. The Contractor must obtain protection and indemnity insurance that must include excess collision liability and pollution liability. The insurance must be placed with a member of the International Group of Protection and Indemnity Associations or with a fixed market in an amount of not less than the limits determined by the Marine Liability Act, S.C. 2001, c. 6. Coverage must include crew liability, if it is not covered by Worker's Compensation as detailed in paragraph (2.) below.

2. The Contractor must obtain worker's compensation insurance covering all employees engaged in the Work in accordance with the statutory requirements of the territory or province or state of nationality, domicile, employment, having jurisdiction over such employees. If the Contractor is subject to an additional contravention, as a result of an accident causing injury or death to an employee of the Contractor or subcontractor, or due to unsafe working conditions, then such levy or assessment must be paid by the Contractor at its sole cost.

3. The protection and indemnity 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 as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.

b.Waiver of subrogation rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by Department of National Defence and Public Works and Government Services Canada for any and all loss of or damage to the watercraft however caused.

c.Notice of cancellation: The insurer will endeavour to provide the Contracting Authority with a 30 calendar days prior written notice of cancellation.

d. Cross liability and 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.

e. Litigation rights: Pursuant to subsection 5(d) of the Department of Justice Act, R.S.C. 1985, 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.

Errors and Omissions Liability Insurance G2002C, (2008-05-12)

1.The Contractor must obtain Errors and Omissions Liability (a.k.a. Professional 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 $1,000,000 per loss and in the annual aggregate, inclusive of defence costs.

2.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.

3.The following endorsement must be included:

Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation.

Commercial General Liability Insurance G2001C (2014-06-26)

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 $2,000,000 per accident or occurrence and in the annual aggregate.

2. The Commercial General Liability 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 “F”

INSPECTION / QUALITY ASSURANCE / QUALITY CONTROL

1. Conduct of Inspection

(a) Inspections will be conducted in accordance with this Annex “A”, and the Test and Trials Plans and accepted by the Inspection Authority and as detailed in this Annex.

(b) The Contractor must provide its own staff or subcontractors to conduct inspections, tests and trials; excepting that Technical Authority or Inspection Authority personnel may be designated in Annex “A”, in which case the Contractor must ensure that its own staff are provided in support of such inspection/test/trial.

(c) As applicable, the Contractor must ensure that the required conditions stated in the Annex “A” and Test and Trials Plans prevail at the commencement of, and for the duration of, each inspection/test/trial.

(d) The Contractor must ensure that their personnel required for equipment operation and records taking during the inspection/test/trial are briefed and available at the start and throughout the duration of the inspection/test/trial. Tradesmen or FSRs who may be required to effect minor changes or adjustments in the installation must be available at short notice.

(e) The Contractor is to coordinate the activities of all personnel taking part in each inspection/test/trial and ensure that safe conditions prevail throughout the inspection/test/trial.

2. Inspection Records and Reports

(a) The Contractor on the inspection record, test or trials sheets as applicable must record the results of each inspection. The Contractor must maintain files of completed inspection records.

(b) The Contractor's Quality Control (QC) representative (and the FSR when required) must sign as having witnessed the inspection, test or trial on forward originals of completed inspection records, together with completed test(s) and/or trials sheets to the Inspection Authority as they are completed.

(c) Unsatisfactory inspection/test/trial results, for which corrective action cannot be completed during the normal course of the inspection/test/trial, will require the Contractor to establish and record the cause of the unsatisfactory condition to the satisfaction of the Inspection Authority. Canada representatives may assist in identification where appropriate.

(d) Corrective action to remove cause of unsatisfactory inspections must be submitted to the Contracting Authority and to the Inspection Authority in writing by the Contractor, for approval before affecting such repairs and rescheduling of the unsatisfactory inspection/test/trial. Such notices must be included in the final records passed to the Contracting Authority and to the Inspection Authority.

(e) The Contractor must undertake rectification of defects and deficiencies in the Contractor's installation or repair as soon as practicable. The Contractor is responsible to schedule such repairs at its own risk.

(f) The Contractor must reschedule unsatisfactory inspections after any required repairs have been completed.

(g) Quality Control, Inspection and Test records that substantiate conformance to the specified requirements, including records of corrective actions, must be retained by the Contractor for three (3) years from the date of completion or termination of the Contract and must be made available to the Contracting Authority and to the Inspection Authority upon request.

3. Inspection and Trials Process

3.1 Drawings and Purchase Orders

(a) Upon receipt of one (1) copy of each drawing or purchase order, the designated Inspection Authority will review its content against the provisions of Annex “A”. Where discrepancies are noted, the Inspection Authority will formally advise all concerned, in writing using a Discrepancy Notice. The resolution of any such discrepancy is a matter for consultation between the Contractor and other Government of Canada Authorities.

3.2 Inspection

(a) Upon receipt and acceptance of the Contractor's Test and Trials Plans, inspection will consist of a number of Inspection Points supplemented by such other inspections, tests, demonstrations and trials as may be deemed necessary by the Inspection Authority to permit him to certify that the work has been performed in compliance with the provisions of Annex “A”. The Contractor must be responsible for notifying the designated Inspection Authority of when the work will be available for inspection, sufficiently in advance to permit the designated Inspection Authority to arrange for the appropriate inspection.

(b) The Inspection Authority will inspect the materials, equipment and work throughout the project against the provisions of the Annex “A” and, where non-conformances are noted, will issue appropriate INSPECTION NON-CONFORMANCE REPORTS.

(c) The Contract requires the implementation of a Quality Assurance/Quality Control system, so the Inspection authority must require that the Contractor provide a copy of its internal inspection report pertaining to a work item before conducting the requested inspection. If third party inspections are required by the Contract (e.g. inspections by a certified CWB 178.2 welding inspector), the reports of these inspections must be required before the Work is inspected by the Inspection Authority.

(d) The QA/QC system is a requirement, so if the documentation is presented to the Inspection Authority before an inspection stating that the Work is satisfactory but the Inspection Authority finds that the Work has not been satisfactorily inspected, the Inspection Authority must issue an Inspection Non-conformance Report against the Work and another against the failure of the Contractor's QA/QC system.

(e) Before carrying out any inspection, the Inspection Authority must review the requirements for the Work and the acceptance and/or rejection standards to be applied. Where more than one standard or requirement is called up and they are potentially conflicting, the Inspection Authority must refer to the order of precedence in the Contract to determine the standard or requirement to be applied.

3.3 Inspection Non-conformance report

(a) An Inspection Non-conformance report will be issued for each non-conformance noted by the Inspection Authority. Each report will be uniquely numbered for reference purposes, will be signed and dated by the Inspection Authority, and will describe the non-conformance.

(b) When the non-conformance has been corrected by the Contractor and has been re-inspected and accepted by the Inspection Authority, the Inspection Authority will complete the Report by adding an applicable signed and dated notation.

(c) At the end of the project, the content of all Inspection Non-conformance Reports which have not been signed-off by the Inspection Authority will be transferred to the Acceptance documents before the Inspection Authority's certification of such documents.

3.4 Tests, Trials, and Demonstrations

(a) The Contractor must keep written records of all tests, trials, and demonstrations conducted required by the QA System.

(b) The Contractor must in all respects be responsible for the conduct of all tests and trials in accordance with the requirements of the Contract.

(c) The Contracting Authority and the Inspection/Technical Authority reserve the right to defer starting or continuing with any sea trials for any reasonable cause including but not limited to adverse weather, visibility, equipment failure or degradation, lack of qualified personnel and inadequate compliance with safety standards

ANNEX “G” to PART 3 OF THE BID SOLICITATION

EVALUATION MATRIX

See attached as a separate document

ANNEX "H"

CONTRACT FINANCIAL SECURITY

PART 1

1. The Contractor must provide one of the following contract financial securities:

(i) (a) A Performance Bond in the amount of fifteen (15) percent of the total bid price for the four (4) Naval Large Tugs (NLT), in the form prescribed below at Part 2 Performance Bond and issued by a surety company listed below; and

(b) A Labour and Material Payment Bond in the form prescribed below at Part 2 Labour and Material Payment Bond, and issued by an approved surety company listed below, in the amount of seven (7) percent of the total bid price for the four (4) Naval Large Tugs; or

(ii) A Security Deposit to the value of seven (7) percent of the total bid price for the four (4) Naval Large Tugs; or

(iii) An Irrevocable Standby Letter of Credit to the value of seven (7) percent of the total bid price or four (4) Naval Large Tugs.

2. Contractor shall provide Contract Financial Security as above within 14 calendar days of contract award.

3. During the performance of the Contract, if the Contractor does not comply with all the terms and conditions of the contract, Canada may demand payment under the contract financial security in accordance with its terms. Proceeds from the Contract financial security shall be applied in accordance with the terms and conditions of the contract.

The above-mentioned bonds are also available electronically on the following Public Works and Government Services Canada Website address: http://www.pwgsc.gc.ca/acquisitions/text/forms-e.html and must be accepted as security by one of the insurance companies listed in Treasury Board Contracting Policy, Appendix L, Acceptable Bonding Companies http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494&section=text#appL

4. Security deposits in the form of government guaranteed bonds with coupons attached will be accepted only if all coupons that are unmatured, at the time the security deposit is provided, are attached to the bonds. The Contractor must provide written instructions concerning the action to be taken with respect to coupons that will mature while the bonds are pledged as security, when such coupons are in excess of the security deposit requirement.

5. In this clause,

(a) "security deposit" means:

(1) a bill of exchange

(i) that is payable to the Receiver General for Canada, and

(ii) that is certified by an approved financial institution or drawn by an approved financial institution on itself; or

(2) a Government guaranteed bond; or

(3) an irrevocable standby letter of credit, or
(4) such other security as may be deemed appropriate by the Contracting Authority (Department of Public Works and Government Services) and approved by Treasury Board;

(b) "approved financial institution" means:
(1) any corporation or institution that is a member of the Canadian Payments Association;
(2) a corporation that accepts deposits that are insured by the Canada Deposit Insurance Corporation or the "Régie de l'assurance-dépôts du Québec" to the maximum permitted by law;
(3) a credit union as defined in the Income Tax Act; or
(4) a corporation that accepts deposits from the public, if repayment of the deposits is guaranteed by Canada in right of a province.

(c) "Government guaranteed bond" means a bond of the Government of Canada or a bond unconditionally guaranteed as to principal and interest by the Government of Canada that is:
(1) payable to bearer; or
(2) accompanied by a duly executed instrument of transfer of the bond to the Receiver General for Canada in accordance with the Domestic Bonds of Canada Regulations; or
(3) registered in the name of the Receiver General for Canada.

(d) "irrevocable standby letter of credit" means any arrangement, however named or described, whereby a financial institution (the "Issuer"), acting at the request and on the instructions of a customer (the "Applicant"), or on its own behalf, is to make a payment to or to the order of Canada, as the beneficiary, or is to accept and pay bills of exchange drawn by Canada, or authorizes another financial institution to effect such payment, or accept and pay such bills of exchange, or authorizes another financial institution to negotiate, against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with.

The letter of credit shall:

(1) state the face amount that may be drawn against it;
(2) state its expiry date;
(3) provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by the authorized departmental representative identified in the letter of credit by his\her office;
(4) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face amount of the letter of credit;
(5) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice for Documentary Credits, 1993 Revision, ICC Publication No. 500;
(6) clearly specify that it is irrevocable or deemed to be irrevocable pursuant to article 6c) of the ICC Uniform Customs and Practice for Documentary Credits, 1993 Revision, ICC Publication No. 500; and
(7) be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.

(e) "completion of warranty period" means the later of the date upon which the warranty period expires by the passage of time or the date upon which the obligation of the Contractor related to the warranty provisions of the Contract have been fulfilled.

Part 2
PERFORMANCE BOND
No. _____
$ _____
KNOW ALL MEN BY THESE PRESENTS, that _____ as Principal, hereinafter called the Principal, and_____ as Surety, hereinafter called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto _____ as Obligee, hereinafter called Canada, in the amount of _____Dollars ($_____), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.
SIGNED AND SEALED this _____ day of _____ 20 ____.

WHEREAS, the Principal has submitted a written proposal to Canada, dated the _____ day of _____, 20 ____ for _____which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall well and faithfully observe and perform all the obligations on the part of the Principal to be observed and performed in connection with the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

(1) Whenever the Principal shall be, and declared by Canada to be, in default under the Contract, the Surety shall:

(a) if the work is not taken out of the Principal's hands, remedy the default of the Principal,
(b) if the work is taken out of the Principal's hands and Canada directs the Surety to undertake the completion of the work, complete the work in accordance with the Contract provided that if a contract is entered into for the completion of the work,
(i) it shall be between the Surety and the completing contractor, and
(ii) the selection of such completing contractor shall be subject to the approval of Canada,
(c) if the work is taken out of the Principal's hands and Canada, after reasonable notice to the Surety, does not direct the Surety to undertake the completion of the work, assume the financial responsibility for the cost of completion in excess of the moneys available to Canada under the Contract,
(d) be liable for and pay all the excess costs of completion of the Contract, and
(e) not be entitled to any Contract moneys earned by the Principal, up to the date of his default on the Contract and any holdbacks relating to such earned Contract moneys held by Canada, and

the liability of the Surety under this Bond shall remain unchanged provided, however, and without restricting the generality of the foregoing, upon the completion of the Contract to the satisfaction of Canada, any Contract moneys earned by the Principal or holdbacks related thereto held by Canada may be paid to the Surety by Canada.
(2) The Surety shall not be liable for a greater sum that the amount specified in this Bond.
(3) No suit or action shall be instituted by Canada herein against the Surety pursuant to these presents after the expiration of two (2) years from the date on which final payment under the Contract is payable.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and year first above written.

SIGNED, SEALED AND DELIVERED in the presence of:

_____
Principal

_____ _____
Witness Surety
NOTE: Affix Corporate seal if applicable.

LABOUR AND MATERIAL PAYMENT BOND
No. _____
$_____
KNOW ALL PERSONS BY THESE PRESENTS, that _____ as Principal, hereinafter called the Principal, and _____ as Surety, hereinafter called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto_____ as Obligee, hereinafter called Canada, in the amount of_____ Dollars ($_____), lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

SIGNED AND SEALED this _____ day of _____ 20 ____

WHEREAS, the principal has entered into a Contract with Canada, dated the _____ day of _____ 20 ___ for _____which contract is by reference made a part hereof, and is hereinafter referred to as the Contract. NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that, if payment is promptly made to all Claimants who have performed labour or services or supplied material in connection with the Contract and any and all duly authorized modifications and extensions of the Contract that may hereafter be made, notice of which modifications and extensions to the Surety being hereby waived, then this obligation shall be

void, otherwise it shall remain in full force and effect, subject, however, to the following conditions:

(1) For the purpose of this bond, a Claimant is defined as one having a direct contract with the Principal or any Subcontractor of the Principal for labour, material or both, used or reasonably required for use in the performance of the Contract, labour and material being constituted to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment (but excluding rental of equipment where the rent pursuant to an agreement is to be applied towards the purchase price thereof) directly applicable to the Contract.
(2) For the purpose of this bond, no payment is required to be made in respect of a claim for payment for labour or services performed or material supplied in connection with the Contract that represents a capital expenditure, overhead or general administration costs incurred by the Principal during the currency or in respect of the Contract.
(3) The Principal and the Surety hereby jointly and severally agree with Canada that if any Claimant has not been paid as provided for under the terms of its contract with the Principal or a Subcontractor of the Principal before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's labour or service was done or performed or materials were supplied by such Claimant, Canada may sue on this bond, have the right to prosecute the suit to final judgement for such sum or sums as may be due and have execution thereon; and such right of Canada is assigned by virtue of Part VIII of the Financial Administration Act to such Claimant.
(4) For the purpose of this bond the liability of the Surety and the Principal to make payment to any claimant not having a contract directly with the Principal shall be limited to that amount which the Principal would have been obliged to pay to such claimant had the provisions of the applicable provincial or territorial legislation on lien or privileges been applicable to the work. A claimant need not comply with provisions of such legislation setting out steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which the claimant might have had. Any such claimant shall be entitled to pursue a claim and to recover judgment hereunder subject to the terms and notification provisions of the Bond.
(5) Any material change in the Contract between the Principal and Canada shall not prejudice the rights or interest of any Claimant under this bond who is not instrumental in bringing about or has not caused such change.
(6) No suit or action shall be commenced hereunder by any Claimant:

(a) Unless such Claimant shall have given written notice within the time limits hereinafter set forth to the Principal and the Surety above named, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal and the Surety at any place where an office is regularly maintained for the transaction of business by such persons or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the Contract is located. Such notice shall be given
(i) in respect of any claim for the amount or any portion thereof required to be held back from the Claimant by the Principal or by the Subcontractor of the Principal under either the terms of the Claimant's Contract with the Principal or the Claimant's Contract with

the Subcontractor of the Principal within one hundred and twenty (120) days after such Claimant should have been paid in full under its Contract,
(ii) in respect of any claim other than for the holdback or portion thereof referred to above within one hundred and twenty (120) days after the date upon which such Claimant did or performed the last of the service, work or labour or furnished the last of the materials for which such claim is made under the Claimant's Contract with the Principal or a Subcontractor of the Principal;
(b) After the expiration of one (1) year following the date on which the Principal ceased work on the said Contract, including work performed under the guarantees provided in the Contract;
(c) Other than in a court of competent jurisdiction in the province or district of Canada in which the subject matter of the Contract or any part thereof is situated and not elsewhere, and the parties hereto hereby agree to submit to the jurisdiction of such court.
(7) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.
(8) The Surety shall not be entitled to claim any moneys relating to the Contract and the liability of the Surety under this Bond shall remain unchanged and, without restricting the generality of the foregoing, the Surety shall pay all valid claims of Claimants under this Bond before any moneys relating to the Contract held by Canada are paid to the Surety by Canada.
(9) The Surety shall not be liable for a greater sum than the amount specified in this bond.
IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its authorized signing authority, the day and year first above written.
SIGNED, SEALED AND DELIVERED in the presence of:

_____
Principal

_____ _____
Witness Surety
NOTE: Affix Corporate seal if applicable

THIS GUARANTEE made in duplicate as of the _____ day of _____, 20__.

BETWEEN: **HER MAJESTY THE QUEEN** in right of
Canada (hereinafter called “Her Majesty”) as
represented by the Minister of Public
Works and Government Services
(hereinafter called the “Minister”)
OF THE FIRST PART
AND: _____**,** a company incorporated under the laws
of _____, with an office at
_____
(hereinafter referred to as the "Guarantor")
OF THE SECOND PART
WHEREAS the Minister proposes to enter into Contract Serial No. _____
(hereinafter referred to as "the "Contract") with _____ (hereinafter referred to as the "Contractor") for the _____**,** all as specified or described in the Contract; AND
WHEREAS the Guarantor acknowledges that the Minister is willing to enter into such Contract only if the Guarantor guarantees the performance of the obligations of the Contractor unconditionally and irrevocably; AND
WHEREAS the Guarantor has agreed to guarantee to the Minister unconditionally and irrevocably the Contractor's performance of all the Contractor's obligations under the Contract;
NOW THEREFORE, in consideration of the Minister’s issuance of the Contract, and the mutual covenants, promises, conditions and agreements hereinafter set out, the parties hereby agree:

1) The Guarantor unconditionally and irrevocably guarantees the performance and fulfilment of each and every obligation of the Contractor contained in or flowing from the Contract. In this Guarantee “obligation” includes all representations and warranties of the Contractor, all undertakings and promises of the Contractor and the payment of all damages for which the Contractor may become liable to the Minister in relation to the Contract.

2) The Minister shall not be obliged to resort to or exhaust any recourse which it may have against the Contractor or any other person before being entitled to claim against the Guarantor.

3) If the Contractor should fail to perform or fulfill any of its obligations, then forthwith upon the date of receipt by the Guarantor of a written call from the Minister, the Guarantor shall undertake or cause to be undertaken the performance of all outstanding obligations as a primary obligor and not as surety, and the Guarantor does hereby guarantee to indemnify and save harmless the Minister from and against all damages and claims of any nature relating to or occasioned by the Contractor’s failure to perform or discharge each and every one of the obligations, conditions and liabilities on the part of the Contractor to be observed or performed under the Contract.

4) It is further understood and agreed that the receipt by the Contractor or the Guarantor of any monies paid by the Minister to the Contractor or the Guarantor, as the case may be, under or in respect of the Contract, shall be in complete discharge and release to the Minister for and in respect of all monies so paid irrespective of the date when or the

party to whom, but for this Guarantee, such monies were or might, or would have been payable.

5) No dealings of whatsoever kind between the Minister and the Contractor whether with or without notice to the Guarantor, shall exonerate the Guarantor in whole or in part, and in particular, but without limitation, the Minister may modify, amend or vary the Contract, exercise options, issue new contracts, grant any indulgence, release, postponement or extension of time, waive any term or condition of the Contract or any obligation of the Contractor, take or release any securities or other guarantees for performance and otherwise deal with the Contractor, the Contract in question, and any other persons as the Minister may see fit, without affecting, lessening or impairing in any way the liability of the Guarantor.

6) No assignment of the Contract, subcontract or any other dealings therewith by the Contractor, whether with or without the consent of the Minister, shall affect this Guarantee.

7) Nothing whatsoever except the performance in full of all of the obligations of the Contractor under the Contract shall discharge the Guarantor of this Guarantee.

8) Wherever any determination of any dispute is made pursuant to the provisions of the Contract or any settlement or any judgment or finding of a court of competent jurisdiction is issued or made which is binding upon the Contractor in respect of the Contract, such determination or judgment or finding shall be binding upon the Guarantor.

9) Any settlement between the Contractor and the Minister and any determination made pursuant to any provision of the Contract which is expressed to be binding upon the Contractor shall be immediately binding upon the Guarantor.

10) This Guarantee shall not be impaired by any loss of any security now or hereafter held by or on behalf of the Minister, whether occasioned through its fault, negligence or otherwise (including without limitation any loss occasioned by the failure to register, perfect, maintain the registration or perfection of, re-register, re-perfect or renew any such security or filing of any financing statement, financing change statement or other document, instrument or thing whatsoever).

11) Demands and calls under this Guarantee may be made by the Minister from time to time.

12) No delay on the part of the Minister in exercising any of its options, powers or rights hereunder or any partial or single exercise thereof shall constitute a waiver thereof. No waiver of any of the Minister's options, powers or rights hereunder and no modification of this Guarantee shall be effective unless the same shall be in writing, duly signed on behalf of the Minister and each such waiver, if any, shall apply only with respect to the specific instance involved, and shall in no way impair the options, powers or rights of the Minister or the obligations of the Guarantor hereunder in any other respect or at any other time.

13) This Guarantee is in addition and without prejudice to any security of any kind or any other Guarantee which may at any time after the date hereof be acquired by the

Minister and any other rights or remedies that the Minister might have against the Contractor.

14) This Guarantee shall be in force and effect from the date of execution of the Contract until all obligations of the Contractor under the Contract have been fulfilled to the satisfaction of the Minister.

15) This Guarantee shall be governed by the laws in force in the Province of Ontario, Canada. IN WITNESS WHEREOF this Guarantee has been executed and sealed on behalf of the Minister by the Authorized officers of the Department of Public Works and Government Services and by the Guarantor under its corporate seal duly attested by the hands of its respective officers authorized in that behalf.

SIGNED, SEALED AND DELIVERED:
MINISTER OF PUBLIC WORKS AND GOVERNMENT SERVICES

_____

_____
Name/Title

_____
– Corporate Secretary
[Name of Guarantor]

_____

_____
Name/Title

_____
Name/Title
(We have authority to bind the corporation)
Reviewed by / Révisé par
Legal Branch / Services juridiques
……
Date…….

ANNEX "I" to PART 5 OF THE 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 permanent full-time and/or permanent part-time employees.

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 "J" Part 1 – ABORIGINAL PARTICIPATION COMPONENT CERTIFICATION FORMS

ABORIGINAL PARTICIPATION COMPONENT (APC) CERTIFICATION

The Bidder agrees that no less than 1% of the Total Estimated Cost of the Contract must be subcontracted to Aboriginal business(es). Refer to Example of acceptable Aboriginal Participation Components under 2.7(b) and Annex "K" for definitions.

In respect of the Contract, no less than 1% of the Total Estimated Cost of the Contract must be performed by the Aboriginal business, the Aboriginal component(s) of a joint venture, an Aboriginal subcontractor, or Aboriginal individuals, and the Contractor must be able to demonstrate, at the time of audit, that it meets this requirement.

An Aboriginal business can be a Band as defined by the Indian Act, or a sole proprietorship, a limited company, a cooperative, a partnership or a not-for-profit organization in which Aboriginal persons have at least 51% ownership and control.

An Aboriginal business could also consist of a joint venture made up of two or more Aboriginal businesses, or an Aboriginal business and a non-Aboriginal business(es), provided that the Aboriginal business(es) has at least 51% ownership and control of the joint venture.

The Bidder agrees that it will comply with the requirements above, and will meet all of its obligations under the Aboriginal Participation Component and that this will be subject to audit by Canada.

If the Bidder fails to meet these requirements, the associated Milestones described in Annex "B" will not be released.

This Certification is executed and signed by duly authorized representatives of the Bidder.

_____
DATE

_____
NAME OF COMPANY

_____
NAME AND TITLE OF PERSON SIGNING THE CERTIFICATION

_____
SIGNATURE

ANNEX "J" Part 2 - ABORIGINAL PARTICIPATION COMPONENT PLAN CERTIFICATION

The Bidder acknowledges and agrees that it will submit an Aboriginal Participation Component Plan within 2 Months after Contract Award.

The Aboriginal Participation Component Plan must be submitted as a self-contained document and must provide the information described in Annex "L" of the Contract.

The Bidder agrees that it will comply with the requirements above, and will meet all of its obligations under the Aboriginal Participation Component Plan and that this will be subject to audit by Canada.

This Certification is executed and signed by duly authorized representatives of the Bidder.

_____
DATE

_____
NAME OF COMPANY

_____
NAME AND TITLE OF PERSON SIGNING THE CERTIFICATION

_____
SIGNATURE

ANNEX "K"

GENERAL INFORMATION ON ABORIGINAL PARTICIPATION COMPONENT

An Aboriginal Participation Component (APC) is an activity which produces long-term benefits for Aboriginal business, and which results from a particular procurement. APCs must be categorized as either direct or indirect.

Benefit Objectives

The Contractor must seek and secure Aboriginal business involvement primarily through subcontracting opportunities. The business activities proposed in support of this objective must be in the form of quantifiable transactions.

The purchase of goods and services from Aboriginal businesses not directly related to the Naval Large Tugs, will be considered as indirect APC. This objective must be in the form of quantifiable transactions.

Direct APCs are preferable to indirect APCs.

Direct benefits result from any part of the Work pertaining to the Naval Large Tugs. Direct APCs must include, but are not be limited to:

(a) subcontracting for goods, services and materials;
(b) direct employment of Aboriginal labour by the Contractor; and
(c) Aboriginal business involvement.

Direct benefits are preferable to indirect benefits, however in the context of APC activities, "indirect" benefits may include contract opportunities not related to the Naval Large Tugs. For an example of "indirect benefits" please refer to 2.7 b) point i.v.

DEFINITIONS:

The following definitions apply to the APC Requirement of the Contract:

(i) Direct Benefits:
Direct Benefits are transactions incurred by the Contractor during performance of the Work that include:

a. Aboriginal Business Subcontracting:
Subcontracting a portion of the Work, or goods or services required by the Contractor to deliver the Work, to a qualified Aboriginal Business.

b. Aboriginal Employment:
Full-time, Part-time and Casual employment of Aboriginal persons.

c. Aboriginal Training and Skills Development:
Training opportunities and skills development for Aboriginal persons, such as on-the job training, or in-house training.

(ii) Indirect Benefits:
Indirect Benefits are relevant socio-economic measures, other than Direct Benefits, such as, but not limited to, specialized training, career development, scholarships, and community outreach programs to help local Indigenous communities meet their economic development needs.

(iii) APC Transactions:

The total value of all transactions incurred by the Contractor on Direct and Indirect Benefits.

ANNEX "L"

THE ABORIGINAL PARTICIPATION COMPONENT (APC) PLAN

No later than 2 Months After Contract award an Aboriginal Participation Component (APC) Plan must be provided to both the Contracting Authority and the APC Authority. The plan must include the following factors:

APC Format

The APC Plan must address the following four areas:

(a) Executive Summary;
(b) Small Business Plan;
(c) APCs Management Plan; and
(d) Detailed Transaction Sheets

Executive Summary

The executive summary must contain an integrated overview of the Contractor's total APCs commitment. It must clearly demonstrate how the Contractor's APCs commitments address the APCs objectives, and how the objectives will be achieved through the proposed commitments.

The Contractor must provide a tabular presentation of the APC. The presentation must include a summary of Direct APCs Transactions.

Small Business Plan

The APC Plan must include, in narrative format:

(a) Small Business Subcontracting Plan - The Contractor must identify Aboriginal business subcontractors that will be participating in the Contract, and describe in as much detail as possible, the Work to be performed by that company, including the dollar value which will correspond to the totals as noted within the detailed transaction sheets.

(b) Supplier Development Plan - The Contractor must submit an Aboriginal business supplier development plan that will identify opportunities, encouragement and assistance that the Bidder will provide to promote Aboriginal business in areas such as technology transfer, investment, marketing assistance or management assistance. The objective should be to enable these firms to become ongoing suppliers.

The Contractor must include completed copies of the forms located in Annex "M" for each Aboriginal business referenced in the APC Plan.

Compliance with the certifications provided to Canada is subject to verification by Canada at any time. The Contracting Authority has the right to ask for additional information to verify the compliance with any certifications.

APCs Management Plan
The APC Plan must describe the methods by which the Contractor will implement, manage, monitor and report progress on its APC activities, leading to the achievement of the proposed APC commitments.

The Contractor must provide Aboriginal Participation Component Reports describing the goals achieved as set forth in its APC when it seeks milestone payments for the Aboriginal Participation Component.

Detailed Transaction Sheets

The APC Plan must include examples of the Detailed Transaction Sheets that will be used to report the progress of the Contractor on its APC activities in the Aboriginal Participation Component Reports. Suggested formats are provided in Annex “N” Aboriginal Participation Component Reports.

ANNEX “M”

FORM 1

CERTIFICATION REQUIREMENTS FOR ABORIGINAL BUSINESS

NOTE TO CONTRACTOR: The following certification requirements apply to this contract. The Contractor is REQUESTED to have these certifications completed by the Aboriginal Participant by having them complete the appropriate spaces below and the contractor is to provide the certifications to the Contracting Authority.

1. i) I, (***Name of duly authorized representative or owner of the business)*** hereby certify that (***Name of business***) meets, and will continue to meet throughout the duration of the contract, the requirements for this program as set out in the attached document entitled "Requirements for the Set-Aside Program for Aboriginal Business", which can be found under Appendix B of the following website: http://www.tbs-sct.gc.ca/pubs_pol/dcgpubs/contpolnotices/cpn_96-6-eng.asp, which document I have read and understand.

ii) The aforementioned business agrees to ensure that any subcontractor it engages with respect to the contract will, if required, satisfy the requirements set out in "Requirements for the Set-Aside Program for Aboriginal Business"

iii) The aforementioned business agrees to provide to Canada, information to substantiate a subcontractor's compliance with this program.

PLEASE CHECK THE APPLICABLE BOXES IN 2 AND 3 BELOW

2. i) The aforementioned business is an Aboriginal business which is a sole proprietorship, band, limited company, cooperative, partnership or not-for-profit organization, [ ]

OR

ii) The aforementioned business is a joint venture between two or more Aboriginal businesses or an Aboriginal business and a non-Aboriginal business. [ ]

3. The Aboriginal business or businesses have:

i) fewer than six full-time employees [ ]

OR

ii) six or more full-time employees [ ]

4. The aforementioned business agrees to immediately furnish to Canada, such evidence as may be requested by Canada from time to time, corroborating this certification. Such evidence must be open to audit during normal business hours by a representative of Canada, who may make copies and take extracts from the evidence. The aforementioned business agrees to provide all facilities for audits and to furnish information requested by Canada with respect to the certification.

5. It is understood that the civil consequences of making an untrue statement, or of not complying with the requirements of the Program or failing to produce satisfactory evidence to Canada regarding the requirements of the Program, may include: disqualification of the business from participating in future contracts under the Program; and/or termination of the contract. In the event that the contract is terminated because of an untrue statement or non-compliance with the requirements of the Program,

Canada may engage another contractor to complete the performance of the contract and any additional costs incurred by Canada shall, upon the request of Canada be borne by the aforementioned business.

6. Date: _____ Signature: _____
(Duly authorized representative of business)

Place: _____ Title: _____

For:

_____
Name of Business

FORM 2

ABORIGINAL OWNER/ABORIGINAL EMPLOYEE OR ABORIGINAL SUBCONTRACTOR CERTIFICATION

1. I, _____, am an
(Name)

owner and/or full-time employee or subcontractor of_____,
(Name of business)

and an Aboriginal person, as described in Annex “J” Part 1 entitled " Aboriginal Participation CERTIFICATION REQUIREMENTS FOR ABORIGINAL BUSINESS".

2. I certify that the above statement is true and consent to its verification upon the request of Canada.

_____
(Date)

_____
(Place)

_____
(Signature of owner and/or employee)

ANNEX "N"

ABORIGINAL PARTICIPATION COMPONENT REPORTS

When seeking the Aboriginal Participation Components milestones as described in Annex "B" the Contractor must deliver the following to the Aboriginal Participation Component's (APC) Authority, the Contracting Authority, and the Technical Authority for review:

i) An APC Report, with supporting calculations, that detail the following for that milestone:

a) A breakdown of the APC Transactions and their total value; and,

b) A detailed breakdown of the Direct Benefits and Indirect Benefits incurred as described in the table below.

ii) Supporting documentation certifying that the Aboriginal firms stated in the APC Report meet the definition of an Aboriginal Business, and that Aboriginal employees stated in the APC Report meet the definition of Aboriginal Persons as defined in the respective forms in Annex "M".

iii) Invoices, pay stubs, receipts, and/or any other documentation that provides evidence that the Transactions claimed in the APC Report were made in the amount claimed.

Detailed Transaction Sheets

The Detailed Transaction Sheet must be used to show each Direct APC transaction completed. Other transactions that do not fit into the Direct APC category must also be shown. In the context of APC activities, "indirect" APC Transactions are contractual business activities that are not associated with the Naval Large Tugs, but contribute significantly to the goals and objectives of the APC.

Transaction Number Contract	**Company Name and Location of Work**	**Description of Work**	**Canadian Person Years**	**Value $ CDN**
Would be transaction # such as contract #	Name of Company or Individual	Detail of what the work is: Operator, Supplier, etc.	Number of People hired as an example	Value + taxes achieved
Totals				

ANNEX "O"

Canadian Content Calculation

1.1.1 The method of calculating Canadian Content is as follows:

-Begin with the total selling price of the product or service;

-Minus the applicable customs duties, excise taxes, Goods and Services Taxes (GST), Harmonized Sales Taxes (HST) and all provincial sales taxes; and,

-Minus any ineligible costs, as detailed in Article 1.1.2.

The remaining value is the Canadian Content.

1.1.2 Costs or business activities that are ineligible for Canadian Content are as follows:

-the value of materials, labour and services imported into Canada;

-the value of any remuneration, living costs, travel expenses and relocation costs paid to non-Canadians for work on the Project;

-the amount of all Excise Taxes, Import Duties, Federal and Provincial Sales Taxes, Goods and Services Taxes, Harmonized Sales Taxes and other duties;

-the value of any royalties and license fees paid to a person, company or entity outside of Canada;

-any proposal or bid preparations costs;

-all travel costs; and

-the cost of government furnished material (material supplied by Canada to be used in the finished Work) and equipment (equipment supplied by Canada to be used in the production process; for example, tooling, jigs, dies, production equipment).

Annex "P"

Economic Leveraging Report

Protected B (when completed)

GENERAL INFORMATION

- Project Name: Large Naval Tugs
- Contractor Name:

- Reporting Period (*please indicate which reporting period*)
  - after the delivery of the first vessel; or
  - after the delivery of the third vessel

- Date of Report:

CONTRACTOR ACHIEVEMENT AGAINST OBLIGATIONS

The Contractor certifies the following:

_____% of the workforce carrying out the Work is Canadian; and

_____% of the materials and equipment used in carrying out the Work contains Canadian Content.

_____
Name

_____
Title

_____ _____
Signature Date

ANNEX A

STATEMENT OF WORK

FOR THE

NAVAL LARGE TUG PROJECT

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Preface

This Statement of Work (SOW) for the Naval Large Tug has been organized in general in accordance with the Work Breakdown Structure (WBS) for Canadian Forces Ships and Submarines as described in Canadian Forces Technical Order (CFTO) D-03-003-024/SG-001. The numbers included in the heading titles in this SOW correspond to the element numbering system in this CFTO.

List of Acronyms and Abbreviations

AC	Alternating Current
AIL	Action Item List
ANSI	American National Standards Institute
AOPS	Arctic Offshore Patrol Ship
AR	Acceptance Review
CA	Contract Authority
CD-ROM	Compact Disc Read-Only Memory
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CFAV	Canadian Forces Auxiliary Vessel
CFB	Canadian Forces Base
CFTO	Canadian Forces Technical Order
CSC	Canadian Surface Combatant
DC	Direct Current
DIDs	Data Item Descriptions
DND	Department of National Defence
DSIP	Delegated Statutory Inspection Program
DVD	Digital Versatile Disc
EIAPP	Engine International Air Pollution Prevention
ELA	Electrical Load Analysis
EPA	Environmental Protection Agency
EPIRB	Emergency Position Indicating Radiobeacon
EXIF	Exchangeable Image File Format
FAT	Factory Acceptance Test
FIFI	Fire Fighting
GMDSS	Global Maritime Distress and Safety System
GRT	Grose Registered Tonnage
HR	Human Resources

IA	Inspection Authority
IACS	International Association of Classification Societies
ILS	Integrated Logistics Support
IMO	International Maritime Organisation
ISO	International Standards
IT	Information Technology
JPEG	Joint Photographic Experts Group
JSS	Joint Support Ship
kg	Kilograms
kVA	Kilovolt Amps
kW	Kilowatts
LCG	Longitudinal Centre of Gravity
MACA	Month(s) after contract approval
MARLANT	Maritime Forces Atlantic
MARPAC	Maritime Forces Pacific
MEL	Master Equipment List
MIL-STD	Military Standard
MPR	Monthly Progress Report
MPRM	Monthly Progress Review Meeting
MSDS	Material Safety Data Sheets
MT	Metric Tons
MTBF	Mean Time Between Failures
NACE CIP	National Association of Corrosion Engineers Coating Inspection Program
NLT	Naval Large Tug
NRT	Net Registered Tonnage
OEM	Original Equipment Manufacturer
PCB	Polychlorinated Biphenyls
PDF	Portable Document Format
PDR	Preliminary Design Review

PMP	Project Management Plan
PNG	Portable Network Graphics
PPIVI	Proven Parent In-Service Vessel Inspection
QHM	Queen's Harbour Masters
QMS	Quality Management System
RCN	Royal Canadian Navy
RFP	Request For Proposal
RSPL	Recommended Spare Parts List
SARQS	Shipbuilding and Repair Quality Standard
SOLAS	Safety of Life At Sea
SOW	Statement of Work
SRD	System Requirements Document
TA	Technical Authority
TBT	Tributyltin
TCG	Transverse Centre of Gravity
TC	Transport Canada
TCMS	Transport Canada Marine Safety
TDMP	Technical Data Management Plan
TDP	Technical Data Package
TPRM	Technical Progress Review Meeting
TSFR	Trim, Stability and Freeboard Report
VCG	Vertical Centre of Gravity
WBS	Work Breakdown Structure
WHMIS	Workplace Hazardous Material Information System

List of Reference Documents

ASME Y.100M Engineering Drawing and Practices

ASME Y14.100M Engineering Drawing Practices

ASME Y14.1M Metric Drawing Sheet Size and Format

ASTM F1808 Standard Guide for Weight Control Technical Requirements for Surface Ships

ASTM F2016 Standard Practice for Establishing Shipbuilding Quality Requirements for Hull Structure, Outfitting, and Coatings

CAN/CSA -Z234.1-89 Canadian Metric Practices Guide

Canada Shipping Act 2001

Canadian Collision Regulations- C.R.C., c. 1416

CF 702-A Acceptance of (Ship name) into the Auxiliary Vessel Service of the Department of National Defence

CFTO C-03-001-024/MS-003, Procedures for Conducting Inclining Experiments on Canadian Forces Surface Ships

CFTO C-03-001-024/MS-006 The Production of Stability Books for Canadian Forces Surface Ship

CFTO D-01-400-001/SG-000 Standard Engineering Drawing Practices

CFTO D-01-400-002/SF-000 Specification for Levels of Engineering Drawings and Associated Lists

CFTO D-03-003-024/SG-001, Work Breakdown Structure for Canadian Forces Ships and Submarines

CFTO D-23-003-005/SF-002 Specification for Maintenance Painting of HMC Ships

Classification Society Rules

Health Canada “Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz - Safety Code 6.”

IACS Recommendation 47 Shipbuilding and Repair Quality Standard (SARQS)

IEEE 45 Recommended Practice for Electric Installations on Shipboard

IMO International Code on Intact Stability, 2008

IMO MEPC 107(49)

IMO Resolution A.962(23) IMO Guidelines on Ship Recycling

IMO Resolution MSC.415(97)

ISO 10005:2005 Quality management systems - Guidelines for quality plans

ISO 3046-1 Reciprocating internal combustion engines - Performance Part 1: Declarations of power, fuel and lubricating oil consumptions, and test methods - Additional requirements for engines for general use

ISO 8528-1 Reciprocating internal combustion engine driven alternating current generating sets -- Part 1: Application, ratings and performance

ISO 9001:2015 Quality Management Systems - Requirements

ISO 9660 Information Processing - Volume and File Structure of CD-ROM for Information Interchange

Maritime Occupational Health and Safety Regulations

National Association of Corrosion Engineers – Coating Inspection Program (NACE CIP)

PWGSC-TPSGC 1379, Work Arising or New Work

PWGSC-TPSGC 1686, Quotation for Design Change or Additional Work

Systems Requirements Document of Annex A

TP 1861 Standards for Navigation Lights, Shapes, Sound Signal Appliances and Radar Reflectors

TP 3685 Standards Respecting Noise Control and Hearing Protection in Canadian Towboats Over 15 Tons, Gross Tonnage

TP 7301, STAB 1 to 8, Stability, Subdivision and Load Line Standards

TP13430 Standard for the Tonnage Measurement of Tug Boats

Transport Canada Regulatory Regime

US Environmental Protection Agency (EPA) Method 1664

Glossary of Terms

Acceptance: Confirmation that each boat, and its supporting documentation, and spares etc., have been delivered to their final destination in a new and undamaged condition.

Action Item List: A chronological listing of all Contractor and DND action items resulting from reviews, meetings, and correspondence between Canada and the Contractor.

Calendar Days: All days in a month, including weekends and holidays.

Calendar Weeks: All days in a week, including weekends and holidays.

Canada: The Government of Canada.

Contract Authority: The authority delegated by ministers and deputy heads to persons for entering into and approving contracts and arrangements expected to result in charges to an appropriation.

Contractor: The shipbuilder that has been awarded the contract to design, build and deliver the NLTs.

Contractor Facilities: The production area where the Contractor is fabricating the NLT including any production area where sub-assemblies of the NLT are being produced under sub-contract.

Deviation: An acceptance by Canada or the contractor that a stated requirement can be changed to a mutually acceptable alternative.

Exit Criteria: Are the criteria or requirements, which must be met before completing a specific task or a process. It is a predefined set of conditions that must exist before a unit of project work can be deemed, completed. It is used as a process control mechanism to verify that a process or sub process has been completed and that its products are of acceptable quality.

Final SRD: The Initial SRD with the addition of those aspects of the Proven Parent Design and Proven Parent In-Service Vessel that will be monitored and assessed throughout the NLT contract to ensure that the NLT will perform to the capabilities of the Proven Parent In-Service Vessel.

Initial SRD: Canada's minimum list of mandatory requirements to ensure the fitness for purpose and safety of the NLT.

Inspection Authority: The person designated in the contract, or by notice to the contractor, who shall act as the representative of the minister in matters concerning the quality management aspects of the Work.

Mean Time Between Failures: The predicted elapsed time between inherent failures of a mechanical system, during normal system operation.

Navigation System: All systems on board that help make the vessel safe to operate at sea including navigation lights and shapes, navigation radars, Automatic Identification Systems (AIS), electronic charting, compasses, speed logs and depth sounders.

Operational Spares: The spare parts required to maintain the full operational capability of the NLT for a specified period of time, based upon the provided projected use and the associated recommendations of Original Equipment Manufacturers.

Physical Configuration Audit: A visual inspection to ascertain that the installation of machinery, equipment, outfit and furnishing has been installed in accordance with Technical Baseline.

Proven Parent Design: A Commercial Off The Shelf (COTS) Transport Canada Delegated Statutory Inspection Program recognized organization (Classification Society) approved design which has been designed and built within the last ten (10) years.

Proven Parent In-Service Vessel: A **v**essel built from the Transport Canada Delegated Statutory Inspection Program recognized organization (Classification Society) approved Proven Parent Design which has entered service within the last ten (10) years and is currently In-Service under Transport Canada Delegated Statutory Inspection Program recognized organization (Classification Society) approval.

Provisional Acceptance: Confirmation that the boat has met all of its design requirements as specified in the Final SRD but has not yet been delivered to the customer at its final destination.

Technical Authority: The person designated in the contract, or by notice to the contractor, who shall act as the representative of the minister in matters concerning the technical aspects of the Work.

Technical Baseline: The configuration of the NLT as established at the Critical Design Review (CDR).

Technical Data: Recorded information, regardless of form or characteristics, of scientific or technical nature. Examples of technical data include but not limited to design and engineering data, engineering drawings and associated lists, specifications, calculations, standards, process sheets, manuals, technical reports, catalogue item identification and related information, and documentation related to computer software.

Test and Trial Plan: A document that defines the procedure that the Contractor intends to follow to prepare and conduct all regulatory, and conformational, tests and trials on the vessel.

Training Needs Analysis: A determination made between the Contractor and DND on the type, duration and level of detail required for operator and maintainer training.

Trial Data Booklet: A consolidated document that contains the signed data sheets for all tests and trials carried out on the first NLT.

Subcontractor: A company, or individual, hired by the Contractor to undertake various aspects of the Work.

Waiver: An acceptance by Canada that a stated requirement need not be met.**Work:** All engineering and shipbuilding effort and activities as defined by the Contract to be carried out by the Contractor to construct and deliver the NLTs.

Working Days: Monday through Friday but not including statutory holidays.

Working Weeks: Five Working Days, which may span more than one Calendar Week.

1 000 General Guidance and Administration

1.1 Purpose

The purpose of this Statement of Work (SOW) is to define the full extent of the work that the Contractor must perform in the design, construction, test and trial of the Naval Large Tug boats including their delivery to the Canadian Forces Base (CFB) Esquimalt, British Columbia and CFB Halifax, Nova Scotia.

1.2 Background

Naval tug services for the Maritime Forces Atlantic (MARLANT) and Maritime Forces Pacific (MARPAC) are provided by the Queen's Harbour Master (QHM) in Halifax and Esquimalt respectively. All naval tugs are owned and maintained by Department of National Defence (DND). They are operated as Canadian Forces Auxiliary Vessels (CFAVs) and are civilian crewed. Five (5) GLEN Class tugs (three [3] in Halifax and two [2] in Esquimalt) are presently the largest and most powerful tugs in the Royal Canadian Navy's (RCN) inventory and form the backbone of the MARLANT/ MARPAC tug fleet. The GLEN tugs were acquired between 1975 and 1977.

The GLEN Class tugs, however, are at their performance limits in dealing with the existing fleet and will not be powerful enough to handle the growing inventory of larger ships that will include the Joint Support Ships (JSS), the Arctic Offshore Patrol Ships (AOPS) and the Canadian Surface Combatants (CSC). In addition, the GLEN Class tugs are reaching the end of their service life expectancy and have un-supportable and obsolete propulsion systems.

DND therefore, has a requirement for the design, construction, test, trial and delivery of four (4) new NLT boats and associated spares to replace the existing GLEN Class tugs. The primary mission of the new NLTs will be to provide a platform to conduct moves of larger RCN vessels, along with providing afloat firefighting capability (FFV 1 or equivalent notation), in the harbors on both coasts.

1.3 Objective

The objective of the Work specified herein is to carry out the engineering and shipbuilding effort to construct the NLTs. The Contractor must take a Transport Canada Delegated Statutory Inspection Program recognized organization (Classification Society) approved Proven Parent Design which has been designed and built within the last ten (10) years, and make the necessary design changes to make the design comply with the Canadian regulatory requirements in the Initial Systems Requirement Document (SRD).

Additionally, the Contractor must provide access for inspection of an example Transport Canada Delegated Statutory Inspection Program recognized organization (Classification Society) approved Proven Parent In-Service Vessel built of the Proven Parent Design which has entered service within the last ten (10) years and is currently In-Service and under Transport Canada Delegated Statutory Inspection Program recognized organization (Classification Society) approval. Any performance capabilities, design and construction features present in the Proven Parent In-Service Vessel that Canada and the Contractor jointly agree to must also be carried over into the NLT and will be monitored by adding requirements to the Initial SRD, forming the Final SRD.

The Contractor must construct, test, trial and deliver four (4) of the resulting vessels, and their associated deliverables, in accordance with the Contract and this SOW. The resulting deliverables must include:

a) A Project Management Plan as detailed in Section 2.1.2 of this SOW;

b) Data, plans, analysis and reports as required by the Contract Data Requirements Lists (CDRLs) at Appendix 1 to this SOW and their associated Data Item Descriptions (DIDs) at Appendix 2 to this SOW;

c) Certifications and trials in accordance with Section 2.1.8, 5.4.6 and 6.2 of this SOW;

d) Initial cadre training in accordance with Section 2.1.10 and 6.8 of this SOW;

e) A Technical Data Package (TDP) as detailed in Section 5.4.1 of this SOW; and

f) Two (2) years' worth of Operational Spares for each NLT as detailed in Section 6.9.2 of this SOW.

The Contractor will have total system responsibility for the development of the NLT design based on the Proven Parent Design and identified Proven Parent In-Service Vessel. The Contractor is responsible for delivering NLTs that meet or exceed the construction, systems and capabilities of the Proven Parent In-Service Vessel along with such design changes as are required to meet classification and regulatory requirements and approvals, the sum total of which is identified in the Final SRD.

1.4 Scope

To achieve the objectives of this contract the NLT project must be undertaken in the following steps: Proven Parent Inspection, Preliminary Design Phase, Critical Design Phase, Construction, Tests and Trials, Certification, Acceptance, Delivery and Warranty.

The Contractor must prepare drawings, calculations and reports as necessary to show that the requisite activities have been completed in accordance with this SOW.

The Contractor must obtain all the appraisals or approvals necessary under the Contract and any others as required to operate the NLTs in Canada for Test and Trials.

The vessels must be built under Classification Society approval with all applicable certificates. Where the Initial or Final SRDs refer to the rules or requirements of a regulatory body or Classification Society, the Contractor must provide proof of compliance. The selected Classification Society must act and provide certificates on behalf of Transport Canada (TC) for all areas delegated under the Delegated Statutory Inspection Program (DSIP).

The Contractor must provide the necessary building facilities, along with the necessary tools, jigs, engineering, labour, and material to design, build, test, launch, outfit, trial and deliver the NLTs complete and ready for service.

The Contractor must design, build, test, launch, outfit, trial and deliver the NLTs in accordance with the Final SRD, this SOW and terms and conditions of the contract.

The Contractor must provide upkeep, including during tests and trials, for the NLTs until delivery and Acceptance by Canada.

The Contractor must ensure that, unless otherwise indicated, all material, equipment, and machinery be supplied, installed, set to work, calibrated, integrated, tested, trialed, and stowed, as applicable, such that the NLTs are ready for the intended service operations upon delivery.

The Contractor must ensure that all machinery, equipment and fittings are in compliance with the requirements of the Contract.

The Contractor must carry out all of the Work using the International Standard Organization (ISO) units of measurements (commonly known as the Metric System) in accordance with the Canadian Metric Practices Guide (CAN/CSA - Z234.1-89) and must use them consistently throughout the Work. This must include all fastenings with the exception of equipment and machinery supplied by third parties where the Imperial fastening system is standard for the manufacturer.

The scope of this work includes this SOW and all requirements identified in Appendix 1, CDRL, and Appendix 2, DIDs.

The Contractor must perform all work necessary to deliver the NLTs and their data in accordance with this SOW, and the requirements specified in these CDRLs and their DIDs and the contract.

1.5 Single Shipyard

The Contractor must construct all four (4) NLTs at the same Contractor facility. For this purpose a Contractor's facilities is taken to be all Contractor and Sub-contractor resources used to support a final single assembly location.

1.6 Applicable Documents

If any referenced standard or regulation has been superseded by a new version prior to contract award then the Contractor must use the new version of the standard or regulation.

If any referenced standard or regulation has become obsolete prior to contract award and has been replaced by a new standard then the Contractor must use the replacement standard or regulation.

If any referenced standard or regulation has become obsolete prior to contract award and has not been replaced then the Contractor must use an equivalent standard or regulation as agreed to by Canada.

1.6.1 Canadian Government Documents

Where government standards or regulation are referenced in this document, the whole standard or regulation will apply unless specifically directed otherwise. The reference will indicate what tailoring, if any, is required by the Technical Authority (TA).

1.6.2 Non-Government Documents

Where non-government standards are referenced in this document, the whole standard will apply unless specifically directed otherwise. Where only parts of the standard is required, the reference will indicate what portions or tailoring of the standard is required by the TA.

All references to other Government requirements and standards in the Military Standard (MIL-STD) specifications or other foreign government standards must be understood as Canadian Government/Organizations, in place of United States Government/Organizations or others.

1.6.3 Precedence of Documents, Standards and Regulations

The order of precedence of documents, standards and regulations will be in accordance with Table 1 .

Table 1 Precedence of Documents, Standards and Regulations

Order of Precedence of Documents, Standards and Regulations from Highest to Lowest:	
1	Regulations / Regulatory Body Requirements
2	The Contract
3	Classification Society Rule Sets
4	Government Standards
5	Non-Government Standards

2 040 Ship System Management

2.1 041 Project Management

2.1.1 General

Once accepted by Canada all of the developed plans must be used by the Contractor to manage the activities of this Contract. Throughout the duration of the Contract the Contractor must inform Canada of any changes that affect the execution of any of the identified plans and submit a revised version for Canada's acceptance if requested.

2.1.2 Project Management Plan

The Contractor must prepare and submit a Project Management Plan (PMP) for Canada's review and acceptance in accordance with CDRL-M-001 and DID-M-001. The PMP must identify how the Contractor intends to fulfill the project management requirements of this SOW.

Once accepted, the Contractor must manage the Work in accordance with the PMP throughout the duration of the contract.

2.1.3 Master Plan and Schedule

The Contractor must prepare, submit and maintain a Master Plan and Schedule to identify when the Contractor intends to fulfill the requirements of this SOW, in accordance with CDRL-M-002 and DID-M-002 for Canada's review.

2.1.4 Quality Assurance (QA) Program

The Contractor must have in place, or implement and maintain a Quality Management System (QMS) that ensures conformance to contractual requirements and is consistent with the 2015 version of the ISO 9001:2015 Quality Management Systems - Guidelines for Quality Plans standard.

The Contractor must use reasonable commercial efforts to ensure that all other Subcontractors and Suppliers comply with appropriate quality management requirements.

The Contractor must deliver and maintain a Quality Plan that describes how the Contractor will implement the QMS throughout the Work in accordance with CDRL-M-003 and DID-M-003 for Canada's review.

Following delivery of the approved Quality Plan to Canada, the Contractor must implement the Quality Plan in the conduct of the Work.

The Contractor must make appropriate amendments to the Quality Plan throughout the term of the Contract to reflect any changes to current and planned quality management activities.

Amendments to the Quality Plan must be reviewed and approved by Canada before they come into force.

The Contractor must make available to Canada any documents referenced in the Quality Plan when requested by Canada.

The Contractor must conduct performance evaluation and improvement as described in ISO 9001:2015 during manufacturing in accordance with the Contractor's Quality Plan.

2.1.5 Risk and Opportunity Management Plan

The Contractor must prepare and submit a Risk and Opportunity Management Plan in accordance with CDRL-M-004 and DID-M-004 for Canada's review and acceptance.

The Contractor must identify, manage, record, and track risks, in a Risk Register, and opportunities in an Opportunity Register, to the completion of the contract in accordance with the Risk and Opportunity Management Plan. The Contractor's Risk and Opportunity Registers must be updated monthly and be included in the Monthly Progress Review Report and discussed, as an agenda item, at all Monthly Progress Review Meetings (MPRM).

2.1.6 Technical Data Management

The Contractor must prepare and submit their process for tracking, managing and labeling the technical and other data produced, or received, during the duration of the Contract. The Contractor must prepare this Technical Data Management Plan (TDMP) in accordance with CDRL-M-005 and DID-M-005 for Canada's review and acceptance.

2.1.7 Change Management

The Contractor must utilize the appropriate Change Request Form in accordance with CDRL-M-006 and DID-M-006 Change Request Form in any instance where the Contractor proposes a change to the Contract.

All proposed changes require the acceptance of both the Contractor and Canada.

2.1.8 Test and Trials Programs

The Contractor must prepare and submit test and trial programs that will demonstrate that the NLTs have met the configuration and performance requirements specified in the Final SRD as well as any regulatory and Classification requirements that are only demonstrable by test and trial.

The Contractor must prepare and submit three (3) programs for tests and trials for review and acceptance:

a) The first is the Dock Trials Program in accordance with CDRL-TT-001 and DID-TT-001;

b) The second is the Sea Acceptance Trial Program in accordance with CDRL-TT-002 and DID-TT-002 ; and

c) The third is the Inclining Test Program in accordance with CDRL-TT-003 and DID-TT-003.

The Contractor must conduct NLT tests and trials in both normal and simulated emergency operational conditions as applicable.

The Contractor must ensure that equipment and personnel are available to support the test and trial programs.

The Contractor must schedule and co-ordinate NLT test and trials in accordance with the test and trial schedule developed as part of the test and trial programs, including the attendance of all necessary inspectors, surveyors and Original Equipment Manufacturers (OEMs).

It is the responsibility of the Contractor to, at their cost, to hire, organize and accommodate all inspectors, surveyors and OEMs required to witness test and trials and to pay any related costs.

All test and trials are to be conducted on each NLT unless otherwise specified.

The Contractor must insure all systems and subsystems are correctly installed according to OEM specifications, are calibrated, and are compliant with the requirements of the Final SRD before tests and trials begin. The Contractor must ensure that equipment/components are not run in a condition that invalidates the OEM's warranty.

The Contractor is responsible for the provision of all instrumentation and data collection equipment necessary to obtain and record the data required to assess the performance of the system undergoing the test or trial. Instrumentation used in testing machinery and equipment must be calibrated no more than 90 Calendar Days before tests or trials are completed. The calibration records for all equipment must be submitted to the TA along with the test and trial reports.

The Contractor must be responsible for developing a formal trials record and providing space therein for the identification, and the recording, of all data relevant to ensuring that each item and system is performing according to specified requirements and OEM performance criteria.

During construction of the vessel(s), the Contractor must arrange for regular inspections and, upon completion of construction of the vessel(s), the Contractor must arrange trials. All Inspections and test and trials performed must be in accordance with the Final SRD and this SOW.

Once approved, any modification to any of the test and trials programs must be re-approved by Canada. A revised version of the program will be required should any modification be made.

The Contractor must ensure that Canada is provided no less than six (6) working weeks advance notice of all tests or trials so that Canada may prepare travel arrangements. Any changes required to a test or trial program, following acceptance of the program, must be made via the Change Request Form, CDRL-M-006 and DID-M-006.

If the NLT fails to meet requirements set forth in the Final SRD, and/or any regulatory or Classification Society requirements, the Contractor must correct the deficiencies and repeat all failed tests or trials. Deficiencies must be corrected prior to scheduling of additional tests or trials.

2.1.9 Build Strategy

The Contractor must prepare and submit the Build Strategy in accordance with CDRL-M-013 and DID-M-013 for Canada's review.

2.1.10 Training

The Contractor must provide at least 37.5 hours of shore-based equipment training on the operational characteristics and systems of the vessel to the tug crews and to any other TA designated representatives over the course of two (2) separate sessions, one (1) each at CFB Esquimalt and CFB Halifax. All personnel attending this training can be assumed to have appropriate at sea experience.

The training sessions must occur after delivery of the NLT to the respective dockyards and before Acceptance of the NLTs.

The Contractor must conduct the training over five (5) contiguous weekdays.

The training must take place either on board the NLT or at a Contractor supplied venue, or a combination of both, as appropriate. The Contractor must ensure that access to the NLT is granted during the training period for the purpose of NLT and equipment familiarization and that any equipment or system on which training is provided is in a state of functionality that allows practical demonstrations to occur.

Any Contractor supplied venue must be within a 30 minute commute from the dockyards of CFB Esquimalt and CFB Halifax for each respective session.

Each session must accommodate up to 30 attendees from Canada.

The Contractor must develop a Training Plan indicating how and when it intends to deliver crew training in accordance with CDRL-T-001 and DID-T-001.

The Contractor must maximize the use of existing documentation as instructional materials (e.g., equipment/system technical manuals, ship/vessel construction/equipment drawings, and engineer's operating manual) and emphasize the operations, maintenance, and peculiarities of the system or equipment being discussed.

Intellectual property rights for training courseware must permit reproduction, translation, use and distribution of the training materials for use by DND or Canada and its representatives for as long as DND retains the NLT.

The Contractor provided training must cover all topics described in the Training Plan.

Subject matter experts from the following equipment or system supplier must conduct the equipment training portion of the training for their systems:

- Prime movers;
- Propulsors;
- Power generation systems;
- Winch systems; and
- Firefighting systems.

The Contractor must provide a lunch break and two (2) health breaks each day during the shore based training.

In addition to shore based training, the Contractor must provide a minimum of eight (8) hours of formal underway familiarization for each of four (4) vessel crews, prior to Acceptance of their vessel.

Formal underway familiarization must include, but not be limited to, cold moves, ship-handling exercises, shipboard navigation electronic systems, machinery control systems, and emergencies such as loss of power and loss of primary steering. Formal underway familiarization must be conducted under the mentorship of a skilled and appropriately certified master or engineer as applicable to the individual system.

The Contractor must provide a combined basic operation, first line maintenance and troubleshooting manual. Each student must receive this combined operation and maintenance manual.

In addition, one (1) manual must be supplied and delivered with each NLT for retention onboard.

Electronic copies of these manuals must be provided. DND must have the rights to reproduce and translate the manuals.

2.1.11 Verification Plan

The Contractor must demonstrate that all requirements contained in the Final SRD have been met.

In preparation for this the Contractor must prepare and deliver a Compliance Verification Matrix in accordance with CDRL-CM-001 and DID-CM-001 for Canada's review and acceptance. This Compliance Verification Matrix must define how the Contractor plans, throughout the design and construction process, to demonstrate that all aspects of the NLT comply with the requirements contained in the Final SRD.

The Compliance Verification Matrix will form the basis of the Exit Criteria for the Preliminary Design and Critical Design Reviews that must be met before the TA and Contract Authority (CA) will give approval to the Contractor to proceed to the next phase of the project.

At any time Canada reserves the right to request and have access to any data developed and delivered, either by or for the contractor, for the purposes of verification and validation of requirement compliance.

DND reserves the right to seek 3rd party analysis if contractor provided verification (Exit Criteria) are not robust enough, or to give Canada sufficient confidence that the final design will deliver the required performance.

2.2 042 General Administrative Requirements

2.2.1 Monthly Progress Reports

The Contractor must monitor progress and provide Monthly Progress Reports (MPRs) in accordance with CDRL-M-008 and DID-M-008 for Canada's review and acceptance.

2.2.2 Contract Meetings

2.2.2.1 General

The Contractor must schedule a Kick-off Meeting, Monthly Progress Review Meetings (MPRMs), Technical Progress Review Meetings (TPRMs) and any other meetings that may occur in consultation with, and as agreed with, Canada.

The Contractor must develop and deliver meeting agendas for all meetings.

The Contractor must record the minutes of all meetings summarizing the discussions and decisions reached. The minutes must be forwarded to Canada for review and acceptance.

Action items identified during meetings must be included in the Action Item List, CDRL-M-011 and DID-M-011, and managed accordingly.

The Contractor must provide the facilities, materials and services required for the conduct of all meetings. The cost for all facilities, materials and services must be borne by the Contractor.

All meetings must be held at the Contractor's premises, however these may be held via teleconference or other means if agreed to beforehand by Canada. Canada will chair all meetings unless otherwise specified or as agreed by Canada.

Urgent matters arising outside of normally scheduled meetings and requiring the immediate attention of Canada must be raised to the TA and Contract Authority (CA) by the Contractor in a reasonable and timely manner.

2.2.2.2 Contract Kick-off Meeting

The Contractor must conduct a contract Kick-off Meeting, in accordance with CDRL-M-007 and DID-M-007.

2.2.2.3 Technical Progress Review Meeting (TPRM)

The Contractor must coordinate, convene, and conduct TPRMs with Canada as required and at least monthly, to discuss and resolve any issues with the design, system engineering, construction, Integrated Logistic Support (ILS) and any other technical issues that affect the progress of the Work. Meetings may be via teleconference or other means reasonably agreed by Canada. The TPRM may also be used as a venue to progress work in which Canada's participation is required.

The Contractor must conduct TPRMs in accordance with CDRL-M-009 and DID-M-009.

2.2.2.4 Monthly Progress Review Meeting (MPRM)

The Contractor must coordinate, convene, and conduct MPRMs in accordance with CDRL-M-010 and DID-M-010 to discuss cost, schedule, progress, risks, opportunities and any other topics that affect the conduct of the Work. MPRMs must encompass total project status as of the review date.

MPRMs may be held in conjunction with the TPRM or other scheduled meetings, if possible.

2.2.2.5 Other Scheduled Meetings

The Contractor may identify through other requirements stipulated in this SOW, and the submission of their various plans, the necessity to schedule other meetings. The Contractor must identify these meetings in the Master Plan and Schedule. Canada's acceptance of the Master Plan and Schedule will confirm Canada's intention to attend such meetings.

2.2.2.6 Unscheduled Meetings

Upon the request of Canada or the Contractor, the Contractor must arrange meetings to discuss the status of the particular issues with the contract or work. The Contractor must ensure that Canada has copies of all material necessary for any such meetings as far in advance as possible. The intent of these meetings is to allow Canada, the Contractor, and the OEM and/or Vendor to discuss any issues or change proposals that arise with regards to the arrangement and/or equipment. These meetings may also provide a forum to discuss the progress of the NLT construction and installation. These meetings may be conducted via teleconference and may be scheduled to coincide with the TPRM and/or MPRM. The Contractor must ensure that the OEM and/or Vendor is represented when appropriate.

2.2.2.7 Meeting Arrangements

When the Contractor is tasked to arrange and coordinate a meeting, this must be organized in accordance with this section.

The Contractor must prepare and submit supporting documents required for the meeting at least five (5) Working Days in advance.

In the case of unscheduled meetings the Contractor must submit supporting documents no less than one (1) full Working Day prior to the meeting.

The Contractor must prepare and submit an agenda for all meetings at least five (5) Working Days in advance.

In the case of unscheduled meetings the Contractor must submit an agenda no less than one (1) full Working Day prior to the meeting.

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

Canada will inform the Contractor of the number of attendees for the meeting representing Canada within one (1) Working Day of receipt of the agenda.

2.2.2.8 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;

- Arrange the venue, including parking as appropriate;
- Co-ordinate with Canada as appropriate;
- Provide all administrative facilities and presentation equipment;
- Ensure that qualified Contractor and subcontractor personnel attend the reviews or meetings as required for the purpose of the review or meeting;

- 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

- Maintain and provide to Canada files, records, documents of all reviews and meetings.

2.2.2.9 Meeting Cancellations

Rescheduling of meetings must be through mutual consent between Canada and the Contractor only.

2.2.2.10 Action Item List (AIL)

The Contractor must maintain a historical, chronological and up-to-date Action Item List (AIL) resulting from reviews, meetings, and correspondence between Canada and the Contractor in in accordance with CDRL-M-011 and DID-M-011, for the duration of the Contract.

2.2.2.11 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 in accordance with CDRL-M-007 Kick-off Meeting, CDRL-M-009 Technical Progress Review Meeting, and CDRL-M-010 Monthly Progress Review Meeting. Meeting minutes are accepted once signed by the CA and TA. Canada will advise the Contractor of any issues within five (5) Working Days of receiving the minutes at which point the Contractor will be responsible for revision and resubmission within two (2) Working Days.

2.2.3 Office Space in Contractor Facilities

The Contractor must provide furnished office space for the exclusive use of Canada's personnel co-located within the Contractor's Facilities. This office space must be available for the use of Canada any time the Contractor's Facilities are open.

The Contractor must ensure the office area is securable with three (3) sets of keys provided to Canada.

The Contractor must ensure the office area contains:

- Two (2) desks with a total of three (3) chairs;

- One (1) legal size lockable filing cabinet with four (4) drawers;

- Waste/Recycling container(s);

- Telephone(s) and telephone line(s) (1 per desk);

- Coat rack(s) or pole(s) sufficient to accommodate outer clothing for a minimum of three (3) people; and

- One (1) laser printer with scan and photocopy capability.

The Contractor must arrange for two (2) high speed internet connections, either wired or secure wireless for Canada supplied computers.

The Contractor must ensure the office area is to the same standard as those typically used in the Contractors facility, regularly cleaned in accordance with the Contractors current practices, and is supplied with ventilation, heating, air-conditioning, electric power, and lighting.

The Contractor must ensure the office area includes access to the Contractors washrooms facilities.

The Contractor must provide two (2) parking spaces within the confines of the Contractor's facility for Canada's personnel.

2.2.4 Contractual Issue Reporting

The Contractor must advise the CA by 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.

2.2.5 Documentation Deliverables

Unless otherwise specified in individual DIDs the Contractor must deliver electronic copies of all deliverables required as part of the contract in the native, editable format of the following software as appropriate for the nature of the deliverable:

- Microsoft Office Suite 2013 including Word, Excel and PowerPoint;
- Microsoft Project 2013; and
- AutoDesk AutoCAD 2015 (i.e., AutoCAD 2013 DWG format).

Adobe Portable Document Format (PDF) is acceptable for documentation provided by third party suppliers, but not for Contractor developed deliverables.

All PDF deliverables must be searchable.

The Contractor must obtain permission from Canada before delivering electronic copies in any other file formats.

The Contractor must deliver all electronic copies of deliverables in the fully readable and editable native software format unless the deliverable file cannot be provided in the native format (e.g., third party user manual where the native format is unavailable or unreadable without specialized software).

The Contractor must submit all deliverable data in draft form for Canada's review or review and acceptance in accordance with the applicable CDRL.

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

Draft document deliverables will be reviewed by Canada in no more than 15 Working Days from receipt. If no comments on the deliverable are received by the Contractor within 15 Working Days, the Contractor can assume that the document has been reviewed, or reviewed and accepted by Canada and that the Contractor can proceed to issue the final version.

Comments by Canada on draft deliverables must not be construed as acceptance of the data deliverable until these comments have been incorporated and the final version has been submitted.

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.

Once Canada has confirmed the changes, the data deliverable will be accepted by Canada in writing.

2.2.5.1 Contract Data Requirements List (CDRL)

The CDRL for the NLT is presented in Appendix 1 to this SOW.

This list details all of the data products that are to be formally delivered to the government by the Contractor as an integral part of the procurement of the NLTs. For each data product the CDRL outlines the purpose of the deliverable and the schedule for the initial, and all subsequent, deliveries.

2.2.5.2 Data Item Descriptions (DIDs)

The DIDs for the NLT are provided in Appendix 2 to this SOW. Each DID defines the individual data product that the Contractor must provide to Canada, at the time(s) and period(s) specified in the CDRL, in order to satisfy the requirements of the contract. Each DID defines the content, format and intended use of the data for the individual deliverable to which it refers.

2.2.6 Proven Parent In-Service Vessel Inspection

2.2.6.1 General

The Proven Parent In-Service Vessel Inspection (PPIVI) permits the Technical Authority, Inspection Authority and other selected representatives of Canada, as required, to inspect the Proven Parent In-Service Vessel and verify that there are no discrepancies between the actual vessel and the information provided in the Proven Parent Design documentation. This inspection is intended to allow Canada to quantify the risk associated with the Proven Parent Design and to identify the acceptance requirements for the NLT.

During the PPIVI the representatives of Canada will verify that each of the Initial SRD requirements, less the Canadian regulatory requirements, are met by the Proven Parent In-Service Vessel. Additionally, during the inspection of the Proven Parent In-Service Vessel, Canada's representatives will assess the performance capabilities and design features of the Proven Parent In-Service Vessel. This assessment will permit Canada to develop the additional requirements for the NLT that reflect the performance capabilities and design features of the Proven Parent In-Service Vessel. These additional requirements will be agreed to by Canada and the Contractor and will be added to the Initial SRD, creating the Final SRD.

This process of an audit / inspection of the Proven Parent In-Service Vessel and update of the Initial SRD will ensure that the Final SRD provides all requirements to confirm NLTs meet or exceed the construction, systems and capabilities of the Proven Parent In-Service Vessel with such design changes as are required to meet Classification Society and regulatory requirements and approvals.

The Final SRD forms the basis of the design reviews and the Compliance Verification Matrix. The Contractor is responsible to deliver the NLT to the requirements contained in the Final SRD.

The Final SRD will be provided to the Contractor via a contract amendment that will be imitated no later than 15 Working Days after the completion of the PPIVI.

2.2.6.2 Conduct

Following the Contract Kick-off Meeting the Contractor must arrange and facilitate the PPIVI, which must be conducted within two (2) months of contract award. Canada must be provided details of the PPIVI no more than five (5) Working Days after contract award in order to coordinate and make travel arrangements.

The Contractor must make all arrangements for access to, and availability of, the Proven Parent In-Service Vessel for the purposes of the PPIVI. Arrangements must include the provision for up to five (5) personnel representing Canada to have complete access to the Proven Parent In-Service Vessel, along with representatives of the Contractor as required.

The PPIVI must provide for five (5) contiguous days of uninterrupted access to the Proven Parent In-Service Vessel for inspection by Canada. Each day must include no less than three (3) hours of access to the Proven Parent In-Service Vessel followed by no more than four (4) hours of meeting time between the Contractor and Canada. This meeting time is to discuss and agree on the additional requirements for the

NLT that reflect the features of the as-built construction, systems and capabilities of the Proven Parent In-Service Vessel that the Contractor is responsible to deliver in the NLT.

The Contractor must make all arrangements for the conduct of the meeting time during the PPIVI including arranging the facilities and taking minutes.

2.2.7 Design Reviews

2.2.7.1 General

The Contractor must perform the required engineering, calculations and design work to make the changes required to the Proven Parent In-Service Vessel design in order for the NLT design to fully meet the requirements of Canada as specified in the Final SRD.

The Contractor must track requirements and accepted design changes, and provide to Canada, during the design reviews, evidence that the modified Proven Parent Design will meet the requirements in the Final SRD.

During the design modification process the Contractor must conduct two (2) formal design reviews with Canada to present the predicted performance, arrangement and design details of the NLT:

- A Preliminary Design Review (PDR); and
- A Critical Design Review (CDR).

2.2.7.2 Preliminary Design Review (PDR)

During the Preliminary Design Phase, the Contractor must examine every aspect of the design, construction and outfitting of the Proven Parent Design and carry out the necessary preliminary design and engineering work in order to rectify any discrepancies between the Proven Parent Design and the requirements of Canada as set out in the Final SRD.

On completion of the Preliminary Design Phase, the Contractor must deliver the Preliminary Design Review (PDR) Data Package in accordance with CDRL-E-006 and DID-E-006 for Canada's review. This data package must bring to the attention of Canada all inconsistencies between the Final SRD and the Proven Parent Design together with the suggested changes needed to correct these inconsistencies.

The Compliance Verification Matrix, in accordance with CDRL-CM-001 and DID-CM-001, must also be completed by the Contractor and submitted to Canada for review and acceptance as part of the PDR deliverable package. It is noted here that the Compliance Matrix at PDR will be a work in progress and only the requirements that are verifiable within PDR deliverables need to be included. The Compliance Verification Matrix will establish the Exit Criteria that must be satisfied during the PDR in order for the Contractor to be able to proceed.

Following the submission of the data package the Contractor must conduct a formal PDR with Canada to confirm that the design will satisfy the Final SRD and that the design is feasible as a starting point for continuing into the critical design phase by satisfying the required Exit Criteria for the PDR.

It is recommended that the PDR be conducted in series on a system-by-system basis and be conducted prior to submitting plans and data to the Classification Society for review.

The PDR may be scheduled to coincide with a MPRM/TPRM.

2.2.7.3 Critical Design Review (CDR)

During the Critical Design phase, the Contractor must carry out the necessary design and engineering work necessary to finalize the configuration, confirm performance and support construction of the NLT.

On completion of the Critical Design phase, the Contractor must obtain formal approval of the NLT design from the Classification Society and must then deliver the Critical Design Review (CDR) Data Package in accordance with CDRL-E-007 and DID-E-007 for Canada's review.

The Compliance Verification Matrix, in accordance with CDRL-CM-001 and DID-CM-001, must also be completed by the Contractor and submitted to Canada for review and acceptance as part of the CDR deliverable package. It is noted here that the Compliance Matrix at CDR will still be a work in progress and only the requirements that are verifiable within CDR deliverables need to be included and will form the Exit Criteria that must be satisfied during the CDR in order for the Contractor to be able to proceed to production design and vessel construction.

Following the submission of the data package the, Contractor must conduct a CDR with Canada prior to the start of vessel production.

It is recommended that the CDR be conducted in series on a system-by-system basis.

The CDR may be scheduled to coincide with a PRM/TPRM.

Upon acceptance by Canada of the CDR, the Contractor must establish the resulting NLT data package as the Technical Baseline for production.

2.2.7.4 Acceptance Review (AR)

An Acceptance Review (AR) meeting must be conducted for each NLT. The objective of the Acceptance Review meeting is for the Contractor to present evidence to Canada that all data deliverables and contractual requirements for a particular NLT have been fully satisfied with the exception of final delivery of each NLT itself.

The Contractor must deliver the AR Data Package in accordance with CDRL-E-010 and DID-E-010 for Canada's review. All tests and trials, the TDP and all other deliverables identified as required for delivery with the respective NLT must be completed and delivered prior to the Contractor conducting the AR for the respective platform.

The Compliance Verification Matrix in accordance with CDRL-CM-001 and DID-CM-001, together with any objective evidence of compliance listed therein, must be completed by the Contractor and submitted to Canada as part of the AR.

Following the AR, and with Canada's concurrence that all data deliverables have been reviewed and technical requirements have been suitably verified, Canada will award the Contractor with Provisional Acceptance for each NLT's specified in the RFP, Delivery and Acceptance.

Upon delivery of the first NLT to its destination, and for all subsequent NLT's to their destination; acceptance of the vessels will occur with a written certificate, form CF 702-A in accordance with the contract terms.

Once Provisional Acceptance has been awarded, the Contractor must have each NLT stored and suitably protected, or proceed with final delivery as per the terms of the contract.

2.2.8 Language

The Contractor must produce all documentation consistently in one of the two Official Languages of Canada unless specified otherwise.

The Contractor must provide written authorization for Canada to translate any documentation produced by the Contractor to the other Official Language of Canada.

To support training purposes, Canada may require certain supplier documentation in both Official Languages. Commercial publications and documentation such as operating manuals supplied by third

party for commercial-off-the-shelf items must be provided to Canada in both Official Languages if commercially available at time of vessel delivery.

If bilingual documentation is not provided from the supplier or OEM, the Contractor should obtain a written authorization from the supplier or OEM in question to grant Canada the rights to translate into the other official language.

2.3 045 Care of Ship during Construction

2.3.1 General

The Contractor must ensure that, during the entire period the NLTs are in the Contractor's possession, all parts of the NLTs be maintained in an undamaged condition.

The Contractor must take all necessary actions to prevent wear and damage incidents during construction. The Contractor must prevent corrosion, or other environmental deterioration, of the NLT until Delivery.

The Contractor must ensure that all piping, machinery, and equipment subject to freezing be kept drained, or the respective compartments suitably heated, when not in use.

The Contractor must ensure that standing water does not accumulate or rest on the weather decks or any areas inside the NLT.

The Contractor must ensure all equipment is protected against grit and sand blast entering the equipment during construction.

The Contractor must ensure that while the NLTs are in the Contractor's possession, the NLTs and all their equipment and material are safeguarded from all damages including fire or flooding through the implementation of appropriate policies and procedures.

The Contractor must ensure that all equipment, prefabricated parts, furniture, and all other items that are stored in warehouses or on piers during the construction period, are kept clean and protected from the environment and stored in accordance with OEM instructions.

The Contractor must ensure that all items are thoroughly examined for vermin, and confirmed to be completely free of vermin, before being placed on board.

The Contractor must ensure that all material for NLT construction, including plate, prefabricated parts, shapes, forms, and extrusions are stored in an enclosed covered shelter protected from the elements.

The Contractor must ensure that all equipment including but not limited to propulsion engines, transmissions, ancillaries, electrical and electronic equipment are stored in an enclosed, environmentally protected shelter to protect against damage from the elements.

The Contractor must ensure that temporary covers as recommended by the OEM are supplied to protect all equipment requiring protection from the weather.

The Contractor must ensure that temporary covers are installed over temporary holes to protect the interior against damage due to weather.

The Contractor must ensure all damages resulting from failure to observe the preceding precautions are rectified at the Contractor's expense.

2.3.2 Care of Machinery and Equipment

The Contractor must be responsible for the care of all NLT machinery and equipment in accordance with the OEM's recommendations, whether furnished by the Contractor or Canada. In storing and installing machinery and equipment the Contractor must ensure that no OEM’s warranties are voided. If a warranty is voided prior to delivery and acceptance by Canada, the Contractor is responsible for system replacement and delivery with all warranties intact.

The Contractor must ensure that all parts, especially those having working surfaces or passages of piping for lubricating oil, fuel oil, or potable water are kept clean and protected during storage, construction and assembly, and after installation.

The Contractor must ensure that all electric and electronic equipment and machinery are at all times protected against dust, moisture, or other foreign matter.

The Contractor must ensure that no NLT equipment is subjected to rapid temperature changes or extremes in temperature.

The Contractor must ensure that, if at any time that machinery or equipment is allowed to deteriorate due to lack of care in storage as indicated above, as determined by the TA, it must be subjected to tests, at Contractor expense, to determine its condition and, if necessary, must be repaired or replaced at Contractor expense.

The Contractor must ensure all preservatives applied by the OEM must be left intact, if possible, until installation of machinery or equipment on the NLT.

If removal of the preservative is necessary for testing the machinery or equipment prior to installation, the Contractor must re-preserve and protect the machinery and equipment until installed.

The Contractor must ensure that all preservatives on working parts are thoroughly removed prior to operation of the machinery or equipment.

The Contractor must ensure that under no circumstances do personnel use engine projections or any other machinery parts as steps.

The Contractor must ensure all damages resulting from failure to observe the preceding precautions are rectified at the Contractor's expense.

The Contractor must ensure that diesel engine fresh water cooling systems are distilled and chemically treated according to the OEM’s recommendations prior to engine operations.

2.3.3 Onboard Equipment

The Contractor must ensure the NLTs are entirely finished, equipped, outfitted, and made ready for service and for delivery including on-board spares.

The Contractor must provide stowage facilities for all equipment, outfit, and gear in the form of racks, cupboards, and lockers to the satisfaction of the TA.

The Contractor must ensure all material necessary for the safety of the NLT as required by Classification Society and Regulatory Bodies for an NLT of this class is supplied and installed.

The Contractor must install the digital nautical charts requested by the Technical Authority prior to the delivery of each NLT.

2.3.4 Environmental Considerations

The Contractor must manage all activities and materials associated with the Work to meet all applicable Federal, Provincial and Municipal environmental legislation and regulations.

The Contractor must put in place the necessary precautions and/or systems to mitigate the potential environmental impacts associated with work during the construction, tests and trials, and delivery of the NLTs.

The contractor must, at any time throughout the Work, upon the request of Canada, provide to Canada a copy of their environmental protection policy and/or plan as well as any associated documentation to demonstrate compliance.

The Contractor must ensure that any substances identified as prohibited materials are not used during the Work.

The Contractor must ensure that asbestos, Polychlorinated Biphenyls (PCBs), ozone depleting substances (including Halon) and Tributyltin (TBT) based anti-fouling paints are not used in the completion of the Work.

The Contractor must, to the greatest extent reasonably possible, ensure that materials used to construct the NLTs, and the materiel specified to conduct routine maintenance support of the NLTs and its subsystems do not pose environmental, health and/or safety hazards at any point during their life cycle, including repair and disposal.

The Contractor must obtain approval in writing from the CA via the Change Request Form, before including any hazardous material, as defined in Federal and Provincial legislation and regulations, in the construction of the NLTs or in their routine maintenance support.

The Contractor must dispose of any hazardous material/waste in accordance with all applicable Federal, Provincial and Municipal legislation and regulations.

3 Other Design Deliverables

3.1 061 Hull Structure

The Contractor must prepare and submit the Bridge Arrangement in accordance with CDRL-E-005 and DID-E-005 for Canada's review and acceptance.

3.2 063 Electric Plant

The Contractor must prepare and submit the Electrical Load Analysis and Report for Canada's review, in accordance with CDRL-E-003 and DID-E-003 for Canada's review.

3.3 068 Integration and Engineering

The Contractor must prepare and submit the Weights and Centers of Gravity Report in accordance with CDRL-E-001 and DID-E-001 and the Trim, Stability and Freeboard Report (TSFR) in accordance with CDRL-E-002 and DID-E-002 Canada's review and acceptance.

4 070 General Requirements for Design and Construction

4.1 Reliability and Availability

The Contractor must select machinery and equipment for the NLT that has a demonstrated Mean Time Between Failure (MTBF) equal to or greater than that specified in the Final SRD, when subject to the specified operating environment and climatic conditions.

The Contractor must select machinery and equipment for the NLT, and design its systems, such that the NLT system has the operational and mission availability as specified in the Final SRD.

4.2 078 Materials and Workmanship

The Contractor must assure that the materials, workmanship and procedures used in the construction of the NLTs and its subsystems must meet the requirements of the Contract, Final SRD, this SOW, Classification Society and Regulatory Bodies.

The Contractor must ensure the quality of workmanship standards for the construction and outfitting of the NLTs are completed in accordance with the following industry standards:

- IACS Recommendation 47 Shipbuilding and Repair Quality Standard (SARQS);
- ASTM F2016 Standard Practice for Establishing Shipbuilding Quality Requirements for Hull Structure, Outfitting, and Coatings; and
- Contractor’s Quality Management Plan.

The Contractor must supply, install, integrate and commission all the equipment specified in the Final SRD and the associated hardware in accordance with the recommendation and guidance of the respective OEM.

All materials, machinery, and equipment incorporated in the construction of the vessels must be new.

All diesel engines, both for main propulsion and as generator sets, must be selected from approved marine engine models listed by both Classification Society and Transport Canada Marine Safety (TCMS) Branch.

The complete hydraulic system, including all hydraulic controls, pumps, tanks, magnetic and micronic filters, coolers, and interconnecting piping must be the sole responsibility of the Contractor. This Contractor must liaise with all relevant equipment suppliers to ensure compatibility of equipment, supervise the installation, flush and clean the system, and deliver the complete system fully tested and operational.

All surface preparation requirements, pre-treatment and coatings applications must be in accordance with CFTO D-23-003-005/SF-002 Specification for Maintenance Painting of HMC Ships and the manufacturer's instructions and must only be carried out within ranges of temperature and humidity conditions as specified in the manufacturer’s instructions.

All anodes must be protected from the effects of paint spraying during construction.

The Technical Authority reserves the right to request samples of the proposed materials to be furnished for testing purposes.

5 080 Integrated Logistics Support Requirements

5.1 General

ILS is comprised of the activities required to develop and deliver the products required to ensure the support and operation of the NLTs throughout their service life.

Materials, machinery, and equipment incorporated into the NLTs must be selected from models currently in production and available in North America and which have a proven logistical support chain (sales offices, warehousing spares, and field service representatives) established and operating in Canada.

All deck machinery must be of proven manufacture for the towing industry with a minimum of ten (10) such systems in service worldwide.

5.2 081 Maintenance

5.2.1 Preventative Maintenance

The Contractor must perform a maintenance analysis and develop and deliver the Maintenance Analysis Reports in accordance with CDRL-ILS-004 and DID-ILS-004 for Canada's review and acceptance.

5.3 085 Design Drawings

5.3.1 Drawings

The Contractor must prepare and submit to Canada all Design Drawings in accordance with CDRL-M-012 and DID-M-012. Note that this DID defines only the process and format of the engineering drawings and associated lists and other DIDs describe the content that will be required for various deliverables.

The Contractor must provide Canada with digital access to all production drawings for viewing and information purposes. Drawings that must be delivered to Canada for review, acceptance, and/or approval are identified in the respective DIDs.

The Contractor must provide to Canada copies of all stamped and approved drawings submitted to the Classification Society and/or Regulatory Bodies.

5.4 086 Technical Manuals and Other Data

5.4.1 Technical Data Package (TDP)

The Contractor must prepare and submit a Technical Data Package that contains all of the Technical Data and Documentation required to operate, maintain and manage the configuration of the NLTs in service in accordance with CDRL-ILS-003 and DID-ILS-003 for Canada's review and acceptance.

The Contractor is responsible for the correctness of the details of all elements of the TDP.

The TA may conduct verification of operating instructions, troubleshooting and maintenance procedures and spare parts references contained in the publications.

The TDP will be accepted only after Canada is satisfied with the final TDP content and that all identified issues have been addressed.

5.4.2 Maker's List (Master Equipment List)

The Contractor must develop and deliver to Canada a Master Equipment List (MEL) that identifies all the major propulsion plant, electrical plant, auxiliary and deck equipment fitted on the NLTs in accordance with CDRL-ILS-001 and DID-ILS-001 for Canada's review.

5.4.3 Hazardous Materials Database

The Contractor must control, track and verify the existence of any hazardous materials on the NLTs.

Each controlled product (defined under the Controlled Product Regulations issued under the Hazardous Products Act) used or installed in the vessel must have a label. The label must disclose prescribed information and display on it all applicable hazard symbols.

The Contractor must provide proper labelling at appropriate locations to alert the worker to hazardous substances and provide advice relative to precautionary measures needed in accordance with the requirements of Workplace Hazardous Material Information System (WHMIS).

The Contractor must develop and deliver the Hazardous Material Database in accordance with CDRL-ILS-002 and DID-ILS-002 for Canada's review and acceptance.

5.4.4 Recommended Spare Parts List (RSPL)

The Contractor must compile a Recommended Spare Parts List (RSPL) in accordance with CDRL-ILS-005 and DID-ILS-005 for Canada's review and acceptance.

5.4.5 Captain Ship's Book

The Captain's Ships Book contains all legal documents required for the vessel's operation.

The Contractor must prepare and deliver the Captain's Ship Book in accordance with CDRL-ILS-006 and DID-ILS-006 for Canada's review and acceptance.

5.4.6 Certificates

The Contractor must obtain and deliver the NLTs with all necessary Classification, and regulatory body build and operational certificates at the time of delivery and prior to acceptance. One (1) original and two (2) electronic copies of the following documents, for the proper and safe operation of the vessels, must be supplied:

- Certificates of Classification Society for hull;
- Certificates of Classification Society for machinery;
- Ship Safety Equipment Certificate;
- Ship Safety Radio Certificate and licences;
- Ship Safety Construction Certificate;
- Certificate of Registry (includes all certificates relating to measurement and tonnage which are required for registry);
- Builder's Certificate;
- Ship's Radio License;
- Certificates of nautical instruments (per item);

- Certificates for safety equipment (per item);
- Certificates for lifesaving equipment (per item)
- Certificates of fire suppression equipment (per item);
- Certificates of anchors, anchor shackles, and anchor chains (per item);
- Certificate of navigation lights;
- Compass Adjustment Certificate and deviation card;
- Certificates for machinery and deck equipment (per item);
- Certificates for all towing gears, wire ropes, etc.;
- Engine International Air Pollution Prevention (EIAPP) Certificate;
- Canadian Oil Pollution Prevention Certificate or International Oil Pollution Prevention Certificate (as appropriate).
- Transport Canada Marine Safety Branch Certificate as required by the Class of Boat;
- OEM make / model test performance certificates and exhaust emission measurements, if applicable, for all machinery, equipment and materials such as engine, gearbox, pumps, switchboards, deck machinery, navigation and communications systems;
- Certificates of building material such as joiner bulkheads;
- Certificates for EPIRBs, light and sound signaling equipment, GMDSS equipment and all other SOLAS (Safety of Life At Sea) safety equipment;
- Type Approval Certificates for engine sets (first ship set must be shop tested);
- Original copy of the warranty certificates of all bought-in machinery, equipment and apparatus (valid for 24 months from the date of acceptance of each of the NLTs);
- Inclining experiment report and stability information booklet; and
- All other certificates as required by Regulatory Bodies.

5.4.6.1 Registry and Classification

The Contractor must ensure all certificates regarding measurement and tonnage are received and forwarded to the Registrar of Shipping, Transport Canada. The NLTs will be registered with a home port of Ottawa, Canada.

Canada will provide the vessel names, and once all measurement certificates are sent to Transport Canada, will register the vessel with the Registrar of Shipping, and provide the Contractor with the official number or license number for marking purposes.

5.4.6.2 Tonnage

The Contractor must provide for the services of an authorized tonnage measurer to have the vessel measured, and assess vessel's gross (GRT) and net (NRT) registered tonnage to Canada Shipping Act 2001 requirements.

The Contractor must have tonnage measured in accordance with the provisions of TP13430 Standard for the Tonnage Measurement of Tug Boats, Part 2 - Tonnage Measurement of Tug Boats 24 Meters in Length or More. The long form method must be used.

6 090 Quality Assurance Requirements

6.1 General Quality

The Contractor shall be responsible for the overall engineering design, integration, testing and supply of the propulsion and electric plant including transmission, shafting, and machinery control system. The Contractor shall submit, upon request, calculations and data to the TA that demonstrates that the design and the selected equipment and components will satisfy the SRD.

Color, patterns and design shall be submitted to the TA for approval.

The quality of all outfit items selected shall be to the approval of the TA.

6.2 091 Ship Inspection

The Contractor must engage a Classification Society, qualified under the DSIP, to conduct plan review and appraisal of the design, undertake construction survey and witness Class test and trials of the NLT as required by the codes and rules specified in the Final SRD.

The Contractor must schedule and coordinate all inspections, appraisals and approvals by the TA, Classification Society, regulatory bodies, and any other necessary organizations with Canada. All required inspections must be integrated into the Contractor's build schedule.

The Contractor is responsible to resolve any problems, deficiencies or defects identified during the inspections or as raised by any of the above authorities.

As part of the inspection of the vessel(s), the Contractor is responsible to ensure that the vessel is built in accordance with the Technical Baseline and must confirm, through a Physical Configuration Audit that the as-built configuration reflects the Technical Baseline. The TA will be present for all configuration audit inspections.

The Contractor must ensure that Canada is present for inspection before and during installation of main propulsion engines, shaft lines and propulsors as applicable.

Inspections must also be conducted after surface preparations and before any surface coatings are applied. All preparations and each coat of paint must be checked and recorded in accordance with National Association of Corrosion Engineers – Coating Inspection Program (NACE CIP) by a certified Level II inspector. Coatings must be inspected prior to being covered by linings or insulation.

Welding must be inspected in accordance with the Final SRD and Classification Society requirements. Pipe spools and runs must be inspected during and after flushing. Cabling runs, connections and terminations must be inspected once completed.

6.3 092 Ship Test

The Contractor must conduct all activities related to test and trials in accordance with Annex F Inspection/Quality Assurance/Quality Control.

The Contractor must conduct all test and trials as identified in section 2.1.8.

6.3.1 Activities Before Testing

Prior to the commencement of any testing activities the Contractor must prepare the vessel for testing by performing the following activities as a minimum:

- Ensure piping and castings are cleaned of sand, scale, metallic chips, turnings and other foreign matter;
- Ensure all piping systems are flushed and blown clean after installation to remove foreign matter, welding spatter, pipe scale and dirt; and
- Ensure all hydraulic, potable water and fuel lines are flushed clean of all contaminants prior to the systems they feed being activated.

6.3.2 Test and Trials Conduct

The Contractor must complete any prerequisites which must be met prior to conducting each test or trial as set out in the test and trials procedures. The Contractor must ensure that the OEM's representatives are in attendance for all equipment tests and trials as required and that the OEM's representatives have made all final checks and adjustments prior to test and trial.

The Contractor must ensure that all required inspections and tests on individual components are completed to the satisfaction of the Classification Society and the TA and IA prior to the commencement of any tests and trials and that all defects are corrected to the satisfaction of the TA prior to the commencement of any trial on that system.

The Contractor must ensure all tests and trials are witnessed by the TA and IA and those subject to Classification Society are witnessed by Classification Society.

The Contractor must visually inspect all components for quality of workmanship and the intrinsic safety of equipment operation prior to each test or trial.

The Contractor must ensure that during the conduct of all tests and trials, no alignment or adjustment is permitted unless specifically required in the test and trials procedures.

Any damage occurring to components or systems during or after any testing and prior to delivery of the NLT must be repaired and the previously completed tests or trials of the component or system must be retested, witnessed and accepted by all applicable inspectors.

Before starting up any major propulsion equipment, a thorough inspection must be performed, in the presence of the authorized representative of the OEM, to establish cleanliness, tightness and correctness of connections, proper lubrication and fuel supply.

The Contractor must test the anchor windlass under normal working conditions to demonstrate satisfactory operation for braking, clutch functioning, power lowering, hoisting, and proper riding of the chain through the hawse pipe, over the wildcat, through the chain pipe, and stowing in the chain locker.

The Contractor must conduct a noise survey on the first of class vessel in accordance with the procedure outlined in TP 3685. The Contractor must address and rectify any deviations in excess of prescribed limits from TP 3685.

The Contractor must conduct a Radio Frequency (RF) Survey on the first of class vessel with all electromagnetic emitters transmitting. The Contractor must conduct the RF survey in accordance with Health Canada "Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz - Safety Code 6."

The Contractor must conduct tests on the Navigation Lighting System to confirm that the arcs of visibility of the installed lights meet the requirements of the Canadian Collision Regulations- C.R.C., c. 1416.

The Contractor must demonstrate the efficiency of the oily water separator as installed in accordance with testing requirements of either the US Environmental Protection Agency (EPA) Method 1664 or IMO MEPC 107(49), whichever specifies the more stringent requirement and is in effect at the time of Contract.

The Contractor must conduct tests to determine the Bollard Pull capacity of the NLT in the ahead and astern directions.

6.4 094 Regular Ship Trials

6.4.1 Dock Trials

Dock trials must be conducted upon completion of all installation procedures, and verification of such installation to the satisfaction of the TA, IA, CA, and, if required, by the Classification Society, or other regulatory body.

Dock trials must be described, and reported in the Dock Trials Program in accordance with CDRL-TT-001 and DID-TT-001.

Dock trials must be conducted to verify the proper functioning of all items of the NLT's equipment, machinery and systems for which it would be necessary, prudent or advantageous to perform whilst docked prior to sea trials.

The Contractor must select a period for the dock trials of main engines and all auxiliary services during which no other work is to be carried out in the machinery space.

Dock trials must include those tests and trials necessary to ensure that the vessel is safe and seaworthy in all respects. The Contractor must demonstrate proper operation and function of all systems and components of each NLT to the satisfaction of the Classification Society and the TA and IA prior to the start of any sea trials.

The Dock Trials must include, but not be limited to, the satisfactory installation and operation of the following:

- Propulsion Control, Monitoring and Alarm System;
- Propulsion and Generator Starting Systems;
- Navigation Electronics;
- Internal and External Communication Systems;
- HVAC;
- Windshield Wiper/Washers;
- Shore Power Connection;
- Navigational Lights;
- Mooring Equipment;
- Fire Detection and Alarm System;
- Lifesaving and Evacuation Equipment;
- Anchor Windlass and Associated Equipment;
- Emergency Engine Shut-Offs;
- Gauges and Alarms;
- Lighting;

- Towline Reel;
- Manual Steering;
- Bilge Pumps;
- Piping Systems; and
- Electrical Generation and Distribution System

6.4.2 Sea Trials

Sea trials must be conducted when each NLT is considered ready for sea trials by the TA, IA, CA, and the Classification Society.

Sea trials must be described, and reported in the Sea Acceptance Trial Program in accordance with CDRL-TT-002 and DID-TT-002.

Sea trials must demonstrate to Canada that each NLT, in all respects, meets the operational performance standards as specified in the Final SRD, in all respects, and is ready for acceptance by Canada for entry into service.

Sea trials must be undertaken only upon satisfactory completion of all dock trials and rectification of all deficiencies arising from these trials.

Before proceeding on sea trials, the Contractor must ensure each NLT is swung and the compass adjusted by a certified compass adjuster acceptable to Canada. The Contractor must provide completed deviation cards to Canada at the completion of sea trials.

At the conclusion of successful sea trials, an inspection of the NLT will be made by the TA and IA. The Contractor must rectify all defects and deficiencies noted during this inspection together with all defects arising during the sea trials.

If the Contractor completes the sea trials but the NLT fails some of the individual requirements, the Contractor must correct the deficiency, reschedule the failed test or trial, and redo those portions of the test or trial that failed.

6.5 097 Inclining Experiment

The Contractor must conduct an inclining experiment on the First of Class, and use the results to derive the NLT's Lightship, in accordance with the Inclining Test Plan and Procedure at CDRL-TT-003 and DID-TT-003.

The inclining weights, equipment for observations, cribbing and other material required for the experiment must be furnished by the Contractor. The Contractor must provide all labour necessary for preparing the NLT for inclining, for installing apparatus, for taking measurements and observations, and for handling lines and shifting inclining weights during the experiment.

The inclining experiment report must include the description of the test, the test results and the derivation of Lightship. The derived Lightship must be used to develop the TSFR in accordance with CDRL-E-002 and DID-E-002.

For all of the subsequent vessels a Lightship check must be conducted in the same way as the inclining experiment with the exception of all aspects related to the NLT's Vertical Centre of Gravity (VCG).

6.6 099 Photographs

The Contractor must deliver to Canada, on completion of the first NLT, one set of digital color Photographs of all interior and exterior spaces, in accordance with CDRL-M-014 and DID-M-014. The photographs must show comprehensive general views of the arrangement of machinery, equipment, appliances, furniture, fittings, instruments and outfit within all accessible spaces and on the exterior decks.

The Contractor must in addition deliver to Canada, within three (3) Working Weeks of Provisional Acceptance of each NLT, one set of digital Photographs of the NLT, taken at sea.

The photographs must include individual photographs of the following views:

- Close-up of the NLT at sea in motion;
- NLT moving on an angle towards the left-hand side of the photo;
- NLT moving on an angle towards the right-hand side of the photo;
- Side view profiles, both port and starboard;
- View dead ahead; and
- View dead astern.

6.7 811 Configuration Management

The Contractor must maintain and control the configuration of all engineering drawings and associated lists throughout the project and until the acceptance of the last NLT.

When revisions and amendments have been made to data deliverables required under this SOW, the Contractor must submit the revisions/amendments to Canada for review or review and acceptance as indicated in the CDRL for that deliverable. Once Canada has confirmed the changes, the data deliverable will be accepted by Canada in writing.

The Technical Baseline for the NLT design must be subject to configuration management control. No departure from the Technical Baseline is permissible without specific written approval by Canada via the Change Request Form.

6.8 858 Personnel and Training Access

The Contractor must provide NLT crews reasonable access to the vessel, on a non-interference basis, for familiarization with the general arrangement, equipment and systems on the vessel during construction at the request of Canada.

The Contractor must include provision for NLT crews to participate as observers during inspections, tests and trials as requested by Canada.

6.9 983 Delivery

6.9.1 General

The delivery of the NLTs will include the NLTs themselves, various data deliverables (i.e., reports, user manuals, etc.) developed throughout the project, initial cadre training as defined in this SOW, and two (2) years' worth of Operation Spares for each of the NLTs.

6.9.2 Delivery and Acceptance

The NLTs must be delivered, at the Contractor's cost, two (2) each, to CFB Esquimalt, British Columbia and CFB Halifax, Nova Scotia.

The two (2) years' worth of Operational Spares for each NLT must be delivered, concurrent with the NLTs, to the DND supply facilities at the same respective locations of CFB Esquimalt, British Columbia or CFB Halifax, Nova Scotia.

Before delivery and on completion of all trials, a general survey must be made of each NLT, and all defects that may have developed, or all work found to be incomplete or unsatisfactory must be corrected by the Contractor subject to the terms of this Contract.

Prior to the Provisional Acceptance of each vessel the Contractor must:

- Rectify all defects to an as-new condition;
- Clean the NLT internally and externally to an as-new condition, machinery and components touched up as required, pipes painted, and all compartments generally brought to as-new condition;
- Fill diesel fuel oil tanks to 10% capacity;
- Ensure the magnetic compass is readjusted and required certificates and deviation cards are handed over to Canada;
- Ensure piping and castings are cleaned of sand, scale, metallic chips, turnings and other foreign matter;
- Ensure all piping systems are flushed and blown clean after installation to remove foreign matter, welding spatter, pipe scale and dirt;
- Fill lube oil and hydraulic oil storage tanks to 95% and potable water tanks to 100%;
- Fill all machinery system tanks (e.g. hydraulic, fresh water, header and expansion) to their normal operating levels;
- Ensure all machinery sumps and gear boxes are filled to their OEM recommended operating levels;
- Ensure black and grey water tanks are emptied and flushed;
- Ensure all hydraulic, potable water and fuel lines are flushed clean of all contaminants prior to the systems they feed being activated;
- Ensure all refrigerants and air conditioning systems are charged to their OEM recommended operating levels;
- Ensure all bilges are clean, empty and dry; and
- Once each compartment, tank, equipment, machinery and/or system has been fully outfitted, inspect it in conjunction with the TA, IA, secure it and when accepted by Canada, turn the keys over to the TA.

Upon delivery of the finished platforms, as required in the contract, following receipt of Provisional Acceptance, whereby all technical and programmatic requirements have been verified as being met, Canada will formally acknowledge Acceptance of each platform (as received).

The date of Acceptance for each platform will mark the first day of the Contractor warranty period for that platform.

Any damage sustained during storage or delivery up until Acceptance by Canada must be repaired by the Contractor at the Contractor's expense within an agreed period of time between Canada and the Contractor.

6.10 996 Launching

6.10.1 Acceptance Events

Canada must be permitted to organize and hold a launch or acceptance event, as desired, at the shipyard facility, adjacent to the NLTs, to coincide with launch or acceptance of any or all of the NLTs.

Canada has no specific requirements for any ceremonies or events in addition to those that the Contractor may hold for their own purposes, however the Contractor should allow for one ceremony early in the Work schedule for the purposes of Canada.

The Contractor must notify Canada of any planned ceremonies or events that concern any of the Work for this contract and provide Canada with the opportunity to have up to 20 guests attend each planned ceremony or event. Examples of such ceremonies or event include first steel cutting, and launching.

The Contractor must inform Canada of any planned ceremony or event as early as is reasonable to allow Canada to coordinate attendance. If the Contractor wishes to have Senior Executives (e.g. Deputy Minister level or higher) from Canada attend any ceremony or event, then Canada must receive notice of the planned date at least 90 Calendar Days in advance of the ceremony or event.

Appendix 1 – Contract Data Requirements List (CDRL)

CDRL No.	DID No.	Title	Purpose	Accept / Review	Initial Submission	Subsequent Submission	Frequency	Remarks
Project Management								
CDRL-M-001	DID-M-001	Project Management Plan	To define the required content of the plan that the Contractor must follow for managing the design and construction of the Naval Large Tugs.	A	25 Working Days	As Required		The initial submission will be 25 Working Days after contract award. Subsequent submissions are subject to review and approval by Canada.
CDRL-M-002	DID-M-002	Master Plan and Schedule	To define the required content of the plan that the Contractor must follow for sequencing and scheduling the Work associated with the design, construction and delivery of the Naval Large Tugs.	R	25 Working Days	Monthly	Monthly	The initial submission will be 25 Working Days after contract award. Subsequent submissions to be presented, updated, and discussed, as required, at Monthly Progress Review Meetings.
CDRL-M-003	DID-M-003	Quality Plans	To define the required content of the plan that the Contractor must follow for controlling the quality of the various major work processes and where there will be opportune points to witness key quality program process points on either an occasional or continuing bases as part of the quality program verification activities.	R	25 Working Days	As Required		The initial submission will be 25 Working Days after contract award. Subsequent submissions are subject to review by Canada.
CDRL-M-004	DID-M-004	Risk and Opportunity Management Plan	To define the required content of the plan that the Contractor must follow to identify and record technical risks and opportunities for improvement.	A	50 Working Days	Monthly	As Required	The Risk and Opportunity Management Plan is to be a onetime deliverable. The Risk Register, which results from the Plan, is to be presented monthly at the Progress Review Meetings.
CDRL-M-005	DID-M-005	Technical Data Management Plan	To define the required content of the plan that the Contractor must follow to track and manage the configuration of technical and other data produced during the Naval Large Tug's design and construction process.	A	25 Working Days	As Required		Update as Required.
CDRL-M-006	DID-M-006	Change Request Form	To define the required content of the form that the Contractor must use to initiate a change request to the Contract.	A	As Required	As Required	As Required	
CDRL-M-007	DID-M-007	Kick-off Meeting	To define how the Contractor must plan and manage the administrative aspects of the Kick-off Meeting.	A	Less than 25 Working Days			Agendas to be submitted no later than 5 Working Days before the Kick-off Meeting. Minutes to be submitted no later than 5 Working Days after the Kick-off Meeting.
CDRL-M-008	DID-M-008	Monthly Progress Report	To define the content of the report that the Contractor must produce on a monthly basis that will present, at a high level, an overview of the status of the project.	A	25 Working Days	Monthly	Monthly	Must be delivered no later than 5 Working Days after the end of the reporting period.
CDRL-M-009	DID-M-009	Technical Progress Review Meeting	To define how the Contractor must plan and manage the administrative aspects of the Technical Progress Review Meetings.	A	25 Working Days	Monthly	Monthly	Agendas to be submitted no later than 5 Working Days before the Technical Progress Review Meeting. Minutes to be submitted no later than 5 Working Days after the Technical Progress Review Meeting.

CDRL No.	DID No.	Title	Purpose	Accept / Review	Initial Submission	Subsequent Submission	Frequency	Remarks
CDRL-M-010	DID-M-010	Monthly Progress Review Meeting	To define how the Contractor must plan and manage the administrative aspects of the Monthly Progress Review Meetings.	A	25 Working Days	Monthly	Monthly	Agendas to be submitted no later than 5 Working Days before the Monthly Progress Review Meeting. Minutes to be submitted no later than 5 Working Days after the Monthly Progress Review Meeting.
CDRL-M-011	DID-M-011	Action Items List	To define how the Contractor must track and manage the status of all Action Items arising from meetings.	A/R	First MPRM/TPRM	Monthly	Monthly	To be updated monthly and presented at the MPRM/TPRM
CDRL-M-012	DID-M-012	Design Drawings	To define how the Contractor must develop, present and deliver Design Drawings.	R	As Required by Other DIDs		As Required	This is a template for DID Drawings.
CDRL-M-013	DID-M-013	Build Strategy	To define the required content of the strategy that the Contractor is proposing for the construction of the Large Naval Tugs including the construction methodology, construction techniques and proposed shipyard facilities together with any risks the Contractor envisages in implementing this strategy.	R	PDR minus 15 Working Days	CDR minus 15 Working Days		
CDRL-M-014	DID-M-014	Photographs	To define the required format of the photographs that the Contractor must take and process for delivery to Canada.	R	As Required by Other DIDs		As Required	This is a template for DID photographs.
Compliance Verification								
CDRL-CM-001	DID-CM-001	Compliance Verification Matrix	To define how the Contractor must demonstrate that all aspects of the design comply with the requirements contained in the Systems Requirement Document.	A	PDR minus 15 Working Days	CDR and AR minus 15 Working Days	As Required	To be delivered for each vessel 15 Working Days before PDR, CDR and AR.
Engineering								
CDRL-E-001	DID-E-001	Weights and Centres of Gravity Report	To define the content of the report that the Contractor must prepare and submit to present the Weight and Centre of Gravity estimates.	A	PDR minus 15 Working Days	CDR, AR and Delivery minus 15 Working Days		To be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package. Must be provided 15 Working Days before delivery for each vessel of the Class.
CDRL-E-002	DID-E-002	Trim, Stability and Freeboard Report	To define the content of the report that the Contractor must prepare and submit to demonstrate that the design meets the minimum freeboard, intact and damaged stability requirements.	A	PDR minus 15 Working Days	CDR, AR and Delivery minus 15 Working Days		To be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package. Must be provided 15 Working Days before delivery for each vessel of the Class.
CDRL-E-003	DID-E-003	Electrical Load Analysis and Report	To define the content of the report, and associated drawings, that the Contractor must prepare and submit to present the aggregate power demands of all electrical loads on the Naval Large Tug under various operating conditions.	R	PDR minus 15 Working Days	CDR and AR minus 15 Working Days	As Required	To be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package.

CDRL No.	DID No.	Title	Purpose	Accept / Review	Initial Submission	Subsequent Submission	Frequency	Remarks
CDRL-E-004	DID-E-004	Unassigned						
CDRL-E-005	DID-E-005	Bridge Arrangement	To define the details that the Contractor must provide that will demonstrate that the Bridge Arrangement meets all of the requirements specified in the Final SRD as well as the associated standards.	A	PDR minus 15 Working Days	CDR minus 15 Working Days	As Required	
CDRL-E-006	DID-E-006	Preliminary Design Review Data Package	To define the content of the data package that the Contractor must prepare, submit and present at the Preliminary Design Review for consideration, discussion, agreement and further development during the Final Design Phase.	R	PDR minus 15 Working Days		Once	
CDRL-E-007	DID-E-007	Critical Design Review Data Package	To define the contents of the data package that the Contractor must prepare, submit and present at the Critical Design Review for consideration, discussion and, agreement before the Production Engineering Package is finalized.	R	CDR minus 15 Working Days		Once	
CDRL-E-008	DID-E-008	Unassigned						
CDRL-E-009	DID-E-009	Unassigned						
CDRL-E-010	DID-E-010	Acceptance Review Data Package	To define the contents of the data package that the Contractor must prepare, submit and present at the Acceptance Review for consideration, discussion and agreement for each vessel.	A	AR minus 15 Working Days			To be provided 15 Working Days prior to AR for each vessel.
Test and Trials								
CDRL-TT-001	DID-TT-001	Dock Trials Program	To define the required content of the program that the Contractor must produce in preparing for, and reporting on, the conduct of the dock trials for the Naval Large Tug and its various equipment and components.	A	PDR minus 15 Working Days	CDR minus 15 Working Days	As required	Any changes to the Dock Trials Program must be provided no later than 30 Working Days prior to the planned start date of each test or trial. Dock Trials Program to be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package.

CDRL No.	DID No.	Title	Purpose	Accept / Review	Initial Submission	Subsequent Submission	Frequency	Remarks
CDRL-TT-002	DID-TT-002	Sea Acceptance Trials Program	To define the required content of the program that the Contractor must produce in preparing for, and reporting on, the conduct of the Sea Acceptance Trials for the Naval Large Tug and its various equipment's and components.	A	PDR minus 15 Working Days	CDR minus 15 Working Days	As required	Any changes to the Sea Acceptance Trials Program must be provided no later than 30 Working Days prior to the planned start date of each test or trial. Sea Acceptance Trials Program to be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package
CDRL-TT-003	DID-TT-003	Inclining Test Program	To define the required content of the program that the Contractor must produce in preparing for, and reporting on, the conduct of the Inclining Experiment.	A	CDR minus 15 Working Days	Sea Trials and AR minus 15 Working Days	As required	For First of Class only except if subsequent vessels have a lightship that varies by more than 2% from the First of Class. Inclining Test Program to be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package.
Integrated Logistics Support								
CDRL-ILS-001	DID-ILS-001	Master Equipment List	To define the required content of the list that the Contractor must produce that will identify to Canada the equipment that has been selected in the design and construction of the Naval Large Tugs and which will subsequently be used as an integral part of their in service support.	R	CDR minus 15 Working Days	Updated copies on delivery of first vessel		To provide updated copies on delivery for all subsequent vessels. To be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package.
CDRL-ILS-002	DID-ILS-002	Hazardous Material Database	To define the required content of the database that the Contractor must provide that will demonstrate to Canada that the Naval Large Tug complies with the requirements for an Inventory of Hazardous Material.	A	CDR minus 15 Working Days	Updated copies on delivery of first vessel		To provide updated copies on delivery for all subsequent vessels. To be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package.
CDRL-ILS-003	DID-ILS-003	Technical Data Package	To define the required content of the package of information (technical data, drawings, manuals and other supporting documentation) that the Contractor must provide to support each Naval Large Tug during its operational life cycle.	A	Manuals 50 Working Days before delivery of each vessel Drawings 15 Working Days before delivery of each vessel		As required	TDP to be provided 15 Working Days prior to AR for each vessel as part of the Acceptance Review Data Package.
CDRL-ILS-004	DID-ILS-004	Maintenance Analysis Reports	To define the content of the reports that the Contractor must produce to identify critical systems and equipment, establish maintenance cycles, list maintenance activities and related support requirements for the Naval Large Tug.	A	CDR minus 15 Working Days	Updated copies on delivery of first vessel		To provide updated copies on delivery for all subsequent vessels. To be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package.
CDRL-ILS-005	DID-ILS-005	Recommended Spare Parts List	To define the contents of a list that the Contractor must provide that will establish the recommended spare parts that should be provided with each Naval Large Tug to support its ongoing regular maintenance.	A	CDR minus 15 Working Days	Updated copies on delivery of first vessel		To provide updated copies on delivery for all subsequent vessels. To be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package.

CDRL No.	DID No.	Title	Purpose	Accept / Review	Initial Submission	Subsequent Submission	Frequency	Remarks
CDRL-ILS-006	DID-ILS-006	Captain's Ship's Book	To define the contents of a book that the Contractor must provide that contains all legal documents required for each Naval Large Tug's operation.	A	On Delivery of First Vessel			To provide updated copies on delivery for all subsequent vessels. To be provided 15 Working Days prior to AR for each vessel as part of Acceptance Review Data Package.
Training								
CDRL-T-001	DID-T-001	Training Plan	To define the required content of the plan that the Contractor must develop for the content and conduct of the Crew Familiarization and Operator and Maintenance Personnel Training.	A	First training session minus 30 Working Days			

Appendix 2 – Data Item Descriptors (DIDs)

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-001 Project Management Plan**	DATA ITEM NUMBER: DID-M-001
DESCRIPTION/PURPOSE: To define the required content of the plan that the Contractor must follow for managing the design and construction of the Naval Large Tugs.	
RELATED DIDS: DID-M-002 Master Plan and Schedule DID-M-003 Quality Plans DID-M-004 Risk and Opportunity Management Plan DID-M-006 Change Request Form DID-M-013 Build Strategy DID-CM-001 Compliance Verification Matrix DID-M-005 Technical Data Management Plan DID-M-007 Kick-off Meeting	REFERENCES:
PREPARATION INSTRUCTIONS: Format: 1.0 The Project Management Plan (PMP) must be prepared in the Contractor's format and delivered as a Microsoft Office Word 2013 document.	

Requirements:

2.0 The PMP must demonstrate how the Contractor will balance scope, schedule and cost during the design, construction, outfit, test, trial, certification, and delivery to Canada of the Naval Large Tugs. It must also detail the Contractor's management approach including assumptions, constraints and risk, as well as the processes to be used to address each requirement of the design, construction, outfit, test, trial, certification, and delivery to Canada of the Naval Large Tugs.

3.0 The PMP must establish the baseline for the measurement of progress and performance by the Contractor.

4.0 The PMP must address the following topics as a minimum:

a. An overview of the Contractor's organization involved in the Work including a description to show the reporting relationships, responsibilities, authorities and lines of communication and project control. The overview should include the Contractor's Organization for design and engineering, material procurement, construction, quality management, test and trials, and administration together with Résumés of key personnel;

b. An overview of the Human Resources (HR) plan and resource allocation strategy to illustrate how the Contractor will obtain, if necessary, the HR capacity with the right education, experience and qualifications to successfully manage and complete the Work, specifically as it relates to administration, design and engineering, material procurement, construction, quality management, and test and trials personnel and resources;

c. A Communication plan, which describes the communications workflow within the Contractors organization and how communications and reporting will be handled with Canada. The Communication Plan must include details of information distribution and performance reporting, identify team members responsible for various elements of correspondence and reporting including monitoring and controlling, and identify what information is reported, the method and frequency of communications and reporting submissions that the Contractor will employ if awarded a Contract as a result of this Solicitation;

d. A description of the design, engineering and drafting capabilities that will be used for the project. Details to include a description of the design, engineering and drafting capabilities, either in-house or of the intended supplier, and the details and experience of the team responsible for engineering design and drafting;

e. A description of how the Contractor will handle the logistics support requirements of the contract including sparing, publications, translation (as necessary), and how warranty issues will be dealt with. The details to include the system by which the Contractor intends to conduct activities related to the calculation, storage, handling and packaging of spares, and warranty issues, the system for the development, configuration control, storage and

transmission of publications, drawings and translation;

f. A description of the procedures and operations of the Contractor's management information system. Details to include procedures and operations of the management information systems, procedures and operations of data management and configuration management, description of computer systems, office software and engineering software, and document tracking and records management procedures;

g. A description of the planning, scheduling and production control and performance monitoring systems in effect at the Contractor's facility;

h. A description of the cost accounting and budget control system used by the Contractor;

i. A description of how the contractor manages Subcontractors;

j. Details of infrastructure including facilities and equipment, building berth / drydock, outfitting quays, cranes, workshops and assembly areas for construction and outfitting, office space, IT tools and software necessary to complete the Work;

k. The proposed format for the Work Breakdown Structure (WBS) to at least two (2) levels;

l. Requirements management strategy defining the Contractor's methodology for managing project requirements;

m. The NLT's construction plan.

Deliverables:

5.0 One (1) electronic copy of the Contractor's PMP must be provided to Canada within 25 Working Days of contract award and thereafter as required by any significant changes in the way the Contractor will manage the Work.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-002 Master Plan and Schedule**	DATA ITEM NUMBER: DID-M-002
DESCRIPTION/PURPOSE: To define the required content of the plan that the Contractor must follow for sequencing and scheduling the Work associated with the design, construction and delivery of the Naval Large Tugs.	
RELATED DIDS: DID-M-001 Project Management Plan DID-M-008 Monthly Progress Report DID-M-010 Monthly Progress Review Meeting DID-M-007 Kick-off Meeting DID-M-009 Technical Progress Review Meeting DID-TT-001 Dock Trials Program DID-TT-002 Sea Acceptance Trials Program DID-TT-003 Inclining Test Program	REFERENCES:
PREPARATION INSTRUCTIONS: Format: 1.0 The Master Plan and Schedule must be prepared as a Gantt chart with dependencies included in the Contractor's format and delivered as a Microsoft Project 2013 document. Requirements:	

2.0 The Master Plan and Schedule must identify all required activities of the Contract in accordance with a recognized Work Breakdown Structure with a critical path including details of any activities that affect the Critical Path and impact successor activities.

3.0 The Master Plan and Schedule must include, and identify the planned sequence of, all aspects and activities of design and construction, studies, analyses, inspections and testing and trials programs and associated dates that the Contractor has identified, and that are required to perform the Work.

4.0 The Master Plan and Schedule must also include, but not limited to, all major milestones and key events such as the Preliminary and Critical Design Review, Factory Acceptance Tests, Dock and Sea Trials and Vessel Delivery.

5.0 The Master Plan and Schedule must allow time for Canada to review and respond to submitted deliverables in accordance with individual DID's. The review periods must be as listed in the CDRL, but may be less if mutually agreeable to both Canada and the Contractor.

6.0 Each update to the schedule must detail, in chronological sequence, the actions and events that have taken place over the reporting period with corresponding planned start and completion dates and actual start and completion dates.

7.0 The Master Plan and Schedule must include the following:

a. Design Schedule: Must identify the design activities during the design of the vessels;

b. Construction Schedule: Must identify the shipbuilding activities during the construction of the vessels;

c. Drawing Schedule: Must detail the sequence of drawing production during the design and construction of the vessels, a list of proposed construction drawings, the date on which each construction drawing is scheduled to be submitted to the Contracting Authority for review, and must be maintained and updated on a continuing basis, including a record of actual comments from the Inspection Authority and Technical Authority as notes in the schedule;

d. Material Schedule: Must detail the sequence of ordering and delivery of material during the construction of the vessels, a list of material and equipment proposed to be purchased by the Contractor, excluding "stock room" material, the date on which the Contractor proposes to purchase each item of material or equipment, the anticipated delivery date of each item on the list; and separate lists, or separate sub-divisions of the Purchasing Schedule, with respect to:

1) Hull;

2) Hull Outfit;

3) Machinery and equipment; and

4) Long lead items and delivery dates.

e. The Material Schedule must be maintained and updated on a continuing basis including records of actual comments from the Inspection Authority and Technical Authority;

f. Major Milestones and Key Events Schedule: Must identify the milestones and key events (e.g. first steel cutting, first and last block placements, vessel launch, vessel delivery, each milestone payment claim, etc.);

g. Test and Trial Schedule: Must detail the scheduled sequence of all major tests and trial events leading to vessel delivery, and must clearly display the relationship of each prerequisite event for each test or trial; and

h. Factory Acceptance Test (FAT) Schedule: Must detail the scheduled sequence of all FATs leading to vessel delivery, and must clearly indicate the location of each test.

Deliverables:

8.0 One (1) electronic copy of the proposed Master Plan and Schedule must be provided to Canada within 25 Working Days of contract award.

9.0 Status (and if necessary, updating) of the Master Plan and Schedule must be a standing item on the agenda for the Monthly Progress Review Meeting.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-003 Quality Plans**	DATA ITEM NUMBER: DID-M-003
DESCRIPTION/PURPOSE: To define the required content of the plan that the Contractor must follow for controlling the quality of the various major work processes and where there will be opportune points to witness key quality program process points on either an occasional or continuing bases as part of the quality program verification activities.	
RELATED DIDS: DID-M-001 Project Management Plan	REFERENCES: ISO 10005:2005 Quality Management Systems - Guidelines for Quality Plans ISO 9001:2015 Quality Management Systems - Requirements

PREPARATION INSTRUCTIONS:

Format:

1.0 The Quality Plans must be prepared in the Contractor's format and delivered as a Microsoft Office Word 2013 document.

Requirements:

2.0 The Quality Plan must be consistent with and subordinate to the PMP and prepared in accordance with the 2005 version of ISO 10005:2005 Quality Management Systems - Guidelines for Quality Plans, and describe, depict and define the Quality Program inspection and test activities.

3.0 The Quality Plan must address the following elements from ISO 9001:2015 Quality Management Systems - Requirements, as a minimum:

a. 4.3 Determining the scope of the quality management system;

b. 5.2 Policy;

c. 5.3 Organizational roles, responsibilities and authorities;

d. 6.2 Quality objectives and planning to achieve them;

e. 7 Support;

f. 8 Operation;

g. 9 Performance Evaluation; and

h. 10 Improvement.

4.0 A Quality Plan for each of the following major work processes must be detailed to ensure product conformity with the System Requirements Document:

a. Initial steel preparation, cutting and forming;

b. Pre-construction fabrication of hull components;

c. Module construction, outfitting and final preparation;

d. Hull assembly and fitting;

e. Major equipment acceptance inspections and tests;

f. Major equipment installation; and

g. Installed equipment inspections and tests.

5.0 The Quality Plans may reference other documents. Where referenced documents do not already exist, but are required by the Quality Plan, the plan must identify them and also identify when, how and by whom they must be prepared and approved. The documents referenced in the Quality Plans must be made available if requested.

6.0 The Quality Plans 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.

Deliverables:

7.0 One (1) electronic copy of the Quality Plans must be provided to Canada within 25 Working Days of contract award and thereafter as required.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-004 Risk and Opportunity Management Plan**	DATA ITEM NUMBER: DID-M-004
DESCRIPTION/PURPOSE: To define the required content of the plan that the Contractor must follow to identify and record technical risks and opportunities for improvement.	
RELATED DIDS: DID-M-001 Project Management Plan DID-M-008 Monthly Progress Report DID-M-010 Monthly Progress Review Meeting DID-M-013 Build Strategy	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 The Risk and Opportunity Management Plan must be prepared in the Contractor's format and delivered as a Microsoft Office Word 2013 document.

Requirements:

2.0 The Contractor must have a plan and a process to manage risks, and implement opportunities for improvement, in accordance with industry best practices.

3.0 The Risk and Opportunity Management Plan must include the Contractor's strategy to identify, describe, assess, manage and mitigate risk, and implement opportunities for improvement, which could impact on achievement of project objectives. The plan must contain the following as a minimum:

a. Risk management planning including the concept for management and continuing review of

risk and opportunity;

b. Risk and opportunity identification methodology including a description of the Risk and Opportunity Register;

c. Qualitative and quantitative risk analysis and opportunity methodology;

d. The development of the Risk and Opportunity Register;

e. Risk and opportunity response planning methodology; and

f. Risk and opportunity monitoring and control including reporting methodology to corporate management and Canada.

4.0 The Contractor's Risk Register, the template for which is to be created as part of the Risk and Opportunity Management Plan, must record project risks and be updated throughout the Contract and contain as a minimum:

a. Risks or potential risks;

b. The level of the risk;

c. Potential impact of the risk;

d. The Contractors work around plan / mitigation options and strategy;

e. Date the risk was raised;

f. Originator of the risk;

g. Status of the risk; and

h. Date the risk was resolved or is projected to be resolved.

5.0 The Contractor's Opportunity Register, the template for which is to be created as part of the Risk and Opportunity Management Plan, must record project opportunities and be updated throughout the Contract and contain as a minimum:

a. Opportunity or potential opportunities;

b. Potential impact of the opportunity;

c. Date the opportunity was raised;

d. Originator of the opportunity;

e. Status of the opportunity;

f. The Contractors plan for implementing the opportunity; and

g. Date the opportunity was implemented.

Deliverables:

6.0 One (1) electronic copy of the Contractor's Risk and Opportunity Management Plan is to be provided to Canada within 50 Working days of contract award.

7.0 The Contractor's Risk and Opportunity Register must be updated monthly and included in the Monthly Progress Review Report and discussed, as an agenda item, at all Monthly Progress Review Meetings.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-005 Technical Data Management Plan**	DATA ITEM NUMBER: DID-M-005
DESCRIPTION/PURPOSE: To define the required content of the plan that the Contractor must follow to track and manage the configuration of technical and other data produced during the Naval Large Tug's design and construction process.	
RELATED DIDS: DID-M-001 Project Management Plan DID-M-009 Technical Progress Review Meeting	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 The Technical Data Management Plan (TDMP) must be developed in the Contractor's format and delivered as a Microsoft Office Word 2013 document.

Requirements:

2.0 The TDMP must define the system by which the Contractor identifies tracks and manages the configuration of technical and other data produced as part of the contract. Technical data must include reports, drawings, books and booklets, design data and other documentation.

3.0 As a minimum the TDMP must define the Contractor's system for:

a. Identifying and numbering technical data. Note that all technical data must include the Work Breakdown Structure code as one of the identifiers;

b. Managing and controlling versions of data;

c. Notifying Canada of version changes;

d. Using a register, index or equivalent system to track in a logically organized, single instance all of the data developed; and

e. The register, index or equivalent system must be maintained current by the Contractor throughout the Work and version controlled. The register must include, but not be limited to, the following information:

1) Revision level of document (e.g., draft, original issue, revision 1, etc.);

2) Revision date of document;

3) Revision description (if the revision is a result of a change request the change request number must be noted here;

4) Record of OPI for each item in the register; and

5) Version and date of the register.

Deliverables:

4.0 One (1) electronic copy of the Contractor's TDMP is to be provided to Canada within one month of contract award and updated as required.

5.0 The Contractor's register, index or equivalent used for recording technical information must be maintained current by the Contractor and submitted to the Technical Authority on request.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-006 Change Request Form**	DATA ITEM NUMBER: DID-M-006
DESCRIPTION/PURPOSE: To define the required content of the form that the Contractor must use to initiate a change request to the Contract.	
RELATED DIDS: DID-M-001 Project Management Plan DID-CM-001 Compliance Verification Matrix DID-M-002 Master Plan and Schedule DID-M-005 Technical Data Management Plan DID-M-004 Risk and Opportunity Management Plan	REFERENCES: PWGSC-TPSGC 1686, Quotation for Design Change or Additional Work PWGSC-TPSGC 1379, Work Arising or New Work
PREPARATION INSTRUCTIONS: Format: 1.0 The Change Request Form must be a covering sheet developed in the Contractor's format and delivered as a Microsoft Office Word 2013 document along with either the form PWGSC-TPSGC 1686, Quotation for Design Change or Additional Work, or the form PWGSC-TPSGC 1379, Work Arising or New Work. Requirements: 2.0 The Change Request Form must have a covering sheet that includes, as a minimum, the following: a. Unique identifying change request number;	

b. An assessment of the impact of the change request on the project schedule;

c. An assessment of the impact of the change request on the capabilities of the vessel; and

d. An assessment of the impact of the change request on any other areas of design affected.

3.0 The Change Request Form must include either the form PWGSC-TPSGC 1686, Quotation for Design Change or Additional Work, or the form PWGSC-TPSGC 1379, as appropriate for the change being requested:

4.0 All Change Requests to the Technical Baseline or Systems Requirement Document must be approved by Canada.

Deliverable:

5.0 One (1) electronic copy of the proposed Change Request Form must be provided to Canada as required.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-007 Kick-off Meeting**	DATA ITEM NUMBER: DID-M-007
DESCRIPTION/PURPOSE: To define how the Contractor must plan and manage the administrative aspects of the Kick-off Meeting.	
RELATED DIDS: DID-M-001 Project Management Plan DID-M-011 Action Item List	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 Correspondence associated with the Kick-off Meeting must be in the Contractor's format and delivered as Microsoft Office 2013 documents as appropriate for the content.

Requirements:

2.0 The meeting must be held at Contractor's facility unless otherwise mutually agreed with Canada.

3.0 An agenda must be provided to all meeting attendees outlining the proposed structure of the meeting to permit participants to better prepare for the topics to be discussed. Canada may have comments to add to the agenda and the agenda must be approved by Canada prior to releasing to the attendees.

4.0 The agenda must include the following:

a. List of expected attendees (Contractor and Canada);

b. Time, date, location and expected duration of the meeting;

c. Facilities and equipment to be provided for attending personnel; and

d. A line-by-line review of the Initial SRD and SOW.

5.0 The Contractor must produce minutes/records for the meeting summarizing the discussions and decisions reached and forward these to the Technical Authority (TA) for review, comment and signature.

6.0 The minutes must be prepared by the Contractor and signed by the Contractor, the TA, Inspection Authority (IA) and the Contract Authority (CA) after all comments have been satisfactorily incorporated to confirm understanding and agreement between Canada and the Contractor regarding the scope of the Work and the technical requirements to be met under the contract.

7.0 The minutes must be prepared using an acceptable format within the constraints imposed herein. Meeting minutes must include the following, as a minimum:

a. The scope, purpose and objective of the meeting;

b. Time, date and meeting duration;

c. Government attendees;

d. Contractor attendees;

e. Status of items discussed at the meeting;

f. List of decisions made at the meeting;

g. Addressees of any action items;

h. Target dates for the completion of action items;

i. Suggested agenda items for the next meetings; and

j. The date, time and location of the next meeting.

Deliverables:

8.0 One (1) electronic copy of the agenda must be provided to the TA, IA and the CA by the Contractor five (5) Working Days prior to the meeting. Unless otherwise specified, any technical data, reports, presentations to be tabled, delivered or presented at the meeting must be submitted with the agenda.

9.0 One (1) electronic copy of signed Records of Decision and Action Item List of the meeting must be forwarded to Canada within five (5) Working Days of the meeting being held. The meeting minutes

must be signed as accepted by the Contractor, CA, IA and TA once comments are incorporated to the satisfaction of the TA.

SAMPLE KICK-OFF MEETING AGENDA

KICK-OFF MEETING

Date:

Time:

Location:

Attendees:

REVIEW OF THE PROJECT MANAGEMENT PLAN;

TECHNICAL REQUIREMENTS;

CRITICAL PATH ACTIVITIES; AND

ANY OTHER CONTRACTUAL OR PROGRAMMATIC ISSUES ASSOCIATED WITH THE PROJECT AS MUTUALLY AGREED BETWEEN THE TA, CA AND THE CONTRACTOR.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-008 Monthly Progress Report**	DATA ITEM NUMBER: DID-M-008
DESCRIPTION/PURPOSE: To define the content of the report that the Contractor must produce on a monthly basis that will present, at a high level, an overview of the status of the project.	
RELATED DIDS: DID-M-002 Master Plan and Schedule DID-M-004 Risk and Opportunity Management Plan DID-M-010 Monthly Progress Review Meeting DID-M-014 Photographs DID-M-011 Action Item List DID-M-009 Technical Progress Review Meeting DID-E-001 Weight and Centre of Gravity Report	REFERENCES:
PREPARATION INSTRUCTIONS: Format: 1.0 The specific format of the Monthly Progress Report (MPR) must be developed by the Contractor and agreed to by Canada and delivered as a Microsoft Office Word 2013 document. 2.0 Each MPR must be signed as complete and accurate by the designated senior officer for the	

Contractor who must be responsible for its content and accuracy.

Requirements:

3.0 Each MPR must contain the following as a minimum:

a. A qualitative and quantitative explanation of the physical progress of the Work since the last MPR including work planned vs. actual work completed to allow Canada to evaluate the progress of the Work;

b. An assessment of the current status of the project including a forecast of milestones to come in the next three (3) months;

c. A list of unresolved technical and materiel issues;

d. An Action Items List identifying the status of all Action Items arising from all MPRs;

e. Risk and Opportunity Register showing new risks and opportunities, updated risk and opportunity status, work around plans and areas of concerns which may require assistance or guidance from Canada;

f. Key accomplishments/milestones to date;

g. Major tasks in progress during the reporting period and reasons for any deviation;

h. Any issues concerning cost, schedule and/or scope with explanations and variations included; and

i. A summary of Milestones / Progress Claim payments.

4.0 The MPR must include identification of any work being performed under sub-contract.

5.0 The Contractor must submit with each MPR at least ten full-colour, digital, dated photographs of each vessel, once construction has commenced, in accordance with CDRL-M-014 and DID-M-014. The photographs must include those areas of the vessel that have changed the most or correspond to significant work issues for that particular month.

Deliverables:

6.0 One (1) electronic copy of the Monthly Progress Reports, including attachments, must be delivered to Canada by the Contractor no later than five (5) Working Days after completion of the reporting period.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-009 Technical Progress Review Meeting**	DATA ITEM NUMBER: DID-M-009
DESCRIPTION/PURPOSE: To define how the Contractor will plan and manage the administrative aspects of the Technical Progress Review Meetings.	
RELATED DIDS: DID-M-008 Monthly Progress Report DID-M-010 Monthly Progress Review Meeting DID-M-011 Action Item List DID-M-005 Technical Data Management Plan	REFERENCES:
PREPARATION INSTRUCTIONS: Format: 1.0 Correspondence associated with the Technical Progress Review Meetings (TPRMs) must be in the Contractor's format and delivered as a Microsoft Office Word 2013 document. Requirements: 2.0 Meetings must be held at Contractor's facility unless mutually agreed otherwise. 3.0 An agenda must be provided to all meeting attendees outlining the proposed structure of the meeting to permit participants to better prepare for the topics to be discussed. Canada may have comments to add to the agenda and the Contractor's proposed agenda must be approved by Canada prior to releasing to the attendees. 4.0 The Agenda must include the following, as a minimum:	

a. List of expected attendees (Contractor and Canada);

b. Meeting number;

c. Time, date, location and expected duration of the meeting;

d. Facilities and equipment to be provided for attending personnel;

e. List of data items and documents, presentations, reports, deliverables to be reviewed / discussed or provided to support the meeting;

f. Copies of all such data and documentation must be provided;

g. List of new subject items to be reviewed / discussed by the Contractor and / or Canada; and

h. List of any outstanding action items from previous meetings where appropriate.

5.0 The Contractor must produce minutes/records for each TPRM summarizing the discussions and decisions reached and forward these to the Technical Authority (TA) for review, comment and signature.

6.0 Wherever possible the Monthly Progress Review Meeting and the TPRM are to be held together and must be co-chaired by the Contract Authority (CA) and the TA. In this instance the process for the agenda and minutes of the combined meeting must be as described above for the TPRM. The final agreed minutes between the parties must be prepared by the Contractor and signed by the Contractor, the TA, Inspection Authority (IA) and the CA after all comments have been satisfactorily incorporated.

7.0 The minutes must be prepared using an acceptable format within the constraints imposed herein. Meeting minutes must include the following, as a minimum:

a. The scope, purpose and objective of the meeting;

b. Time, date and meeting duration;

c. Government attendees;

d. Contractor attendees;

e. Status of items discussed at the meeting;

f. List of decisions made at the meeting;

g. Addressees of any action items;

h. Target dates for the completion of action items;

i. Suggested agenda items for the next meetings; and

j. The date, time and location of the next meeting.

8.0 Matters, arising outside normally scheduled meetings, and deemed by the Contractor to require the immediate attention of Canada, must be brought to the attention of the TA as soon as reasonably practicable.

Deliverables:

9.0 One (1) electronic copy of the agenda must be provided to the TA, IA and the CA by the Contractor five (5) Working Days prior to each meeting. Unless otherwise specified, any technical data, reports, presentations to be tabled, delivered or presented at the meeting must be submitted with the agenda.

10.0 One (1) electronic copy of signed Records of Decision and updated Action Item List of each TPRM must be forwarded to Canada within five (5) Working Days of the meeting being held. The meeting minutes must be signed as accepted by the Contractor, CA, IA and TA once comments are incorporated to the satisfaction of the TA.

SAMPLE TECHNICAL REVIEW MEETING AGENDA

TECHNICAL MEETING #

Date:

Time:

Location:

Attendees:

1. ACCEPTANCE OF PREVIOUS MINUTES

2. REVIEW OF PREVIOUS ACTION ITEMS

3. TECHNICAL AUTHORITY – NEW ITEMS

4. CONTRACTOR – NEW ITEMS

5. DESIGN CHANGE STATUS (DCR LIST)

6. WEIGHT REPORT

7. MASTER EQUIPMENT LIST

8. TRANSPORT CANADA REGULATORY ISSUES

9. CLASSIFICATION SOCIETY ISSUES

10. OTHER ISSUES

11. NEXT MEETING

12. ADJOURN

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-010 Monthly Progress Review Meeting**	DATA ITEM NUMBER: DID-M-010
DESCRIPTION/PURPOSE: To define how the Contractor must plan and manage the administrative aspects of the Monthly Progress Review Meetings.	
RELATED DIDS: DID-M-008 Monthly Progress Report DID-M-009 Technical Progress Review Meeting DID-M-011 Action Item List	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 Correspondence associated the Monthly Progress Review Meetings (MPRM) must be in the Contractor's format and delivered as a Microsoft Office Word 2013 document.

Requirements:

2.0 Meetings are to be held at Contractor's facility unless mutually agreed otherwise.

3.0 An agenda must be provided to all meeting attendees outlining the proposed structure of the meeting to permit participants to better prepare for the topics to be discussed. Canada may have comments to add to the agenda and must be approved by Canada prior to releasing to the attendees.

4.0 The Agenda must include the following, as a minimum:

a. List of expected attendees (Contractor and Canada);

b. Meeting number;

c. Time, date, location and expected duration of the meeting;

d. Facilities and equipment to be provided for attending personnel;

e. Work planned vs. actual work completed;

f. Current status of the project including a forecast of milestones to come;

g. Risk and Opportunity Register showing updated risk and opportunity status and work around plans;

h. Key accomplishments/milestones to date; and

i. Update Design Change Requests

5.0 The Contractor must produce minutes/records for each MPRM summarizing the discussions and decisions reached and forward these to the DND Technical Authority (TA), Inspection Authority (IA) and Contract Authority (CA) for review, comment and signature.

6.0 Wherever possible the MPRM and the Technical Progress Review Meeting are to be held together and must be co-chaired by the CA and the TA. In this instance the process for the agenda and minutes of the combined meeting must be as described above for the MPRM. The final agreed and approved minutes between the parties must be prepared by the Contractor and signed by the Contractor, the TA, IA and the CA after all comments have been satisfactorily incorporated.

7.0 The minutes must be prepared using an acceptable format within the constraints imposed herein. Meeting minutes must include the following, as a minimum:

a. The scope, purpose and objective of the meeting;

b. Time, date and meeting duration;

c. Government attendees;

d. Contractor attendees;

e. Status of items discussed at the meeting;

f. List of decisions made at the meeting;

g. Identify action addressees;

h. Target dates for the completion of action items;

i. Suggested agenda items for the next meetings; and

j. The date, time and location of the next meeting.

Deliverables:

8.0 One (1) electronic copy of the agenda must be provided to the TA, IA and CA by the Contractor five (5) Working Days prior to each meeting.

9.0 One (1) electronic copy of signed approved minutes, and updated Action Item List, of each MPRM must be forwarded to Canada within five (5) Working Days of the meeting being held. The meeting minutes must be signed as accepted by the Contractor, CA, IA and TA once comments are incorporated to the satisfaction of the CA.

SAMPLE MONTHLY PROGRESS REVIEW MEETING AGENDA

PROGRESS REVIEW MEETING #

Date:

Time:

Location:

Attendees:

1. ACCEPTANCE OF PREVIOUS MINUTES

2. REVIEW OF PREVIOUS ACTION ITEMS

3. TECHNICAL AUTHORITY – NEW ITEMS

4. CONTRACTOR – NEW ITEMS

5. REVIEW / SUMMARY OF PROJECT STATUS

6. REVIEW WORK PLANNED VERSUS ACTUAL WORK COMPLETED

7. REVIEW SCHEDULE AND KEY MILESTONES TO DATE

8. REVIEW WORK IN PROGRESS AND PROJECTED
9. REVIEW AND UPDATE RISK and OPPORTUNITY REGISTER
10. OTHER ITEMS AND ISSUES RELATED TO THE WORK
11. NEXT MEETING
12. ADJOURN

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-011 Action Item List**	DATA ITEM NUMBER: DID-M-011
DESCRIPTION/PURPOSE: To define how the Contractor must track and manage the status of all Action Items arising from meetings.	
RELATED DIDS: DID-M-008 Monthly Progress Report DID-M-009 Technical Progress Review Meeting DID-M-010 Monthly Progress Review Meeting DID-M-007 Kick-off Meeting	REFERENCES:
PREPARATION INSTRUCTIONS: Format: 1.0 The specific format of the Action Item List (AIL) must be developed by the Contractor and agreed to by Canada and delivered as a Microsoft Office Excel 2013 document. Requirements: 2.0 The AIL must contain the following, as a minimum: a. identification number; b. title or description; c. date opened;	

d. action required;

e. priority;

f. organization responsible for taking action;

g. brief statement of results in sufficient detail to clearly identify and track the action taken;

h. date closed; and

i. status (open/closed).

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

4.0 The Contractor must review the AIL at each Progress Review Meeting.

5.0 The Contractor must include a subset of the list containing all open action items as an attachment to the Monthly Progress Reports.

Deliverables:

6.0 The Contractor must make an electronic copy of the most current AIL or any portion thereof available to Canada in accordance with the CDRL, or when requested by Canada.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-012 Design Drawings**	DATA ITEM NUMBER: DID-M-012
DESCRIPTION/PURPOSE: To define how the Contractor must develop, present and deliver Design Drawings.	
RELATED DIDS:	REFERENCES: ASME Y14.1M Metric Sheet Size and Format ASME Y.100M Engineering Drawing and Practices CAN/CSA -Z234.1-89 Canadian Metric Practices Guide CFTO D-01-400-001/SG-000 Standard Engineering Drawing Practices CFTO D-01-400-002/SF-000 Specification for Levels of Engineering Drawings and Associated Lists ISO 9660 Information Processing - Volume and File Structure of CD-ROM for Information Interchange
PREPARATION INSTRUCTIONS: Format: 1.0 All Design Drawings / Diagrams must be provided in an Autodesk AutoCAD 2013 DWG format. DWG files must be monotone (black and white) unless special requirements necessitate the use of colours (e.g. safety plans). 2.0 All Design Drawings / Diagrams must include a border and title block. 3.0 Multi-sheet Design Drawings / Diagrams contained within a single file are preferred over single file	

per sheet methodology.

4.0 Design Drawings / Diagrams should ideally be arranged such that their printed versions are sized in accordance with one of the options in Canadian Forces Technical Order (CFTO) D-01-400-001/SG-000 Standard Engineering Drawing Practices. Failing that they must be arranged such that their printed versions are sized in accordance with one of the options in ASME Y14.1M Metric Sheet Size and Format.

5.0 Design Drawings / Diagrams must comply with CAN/CSA -Z234.1-89 Canadian Metric Practices Guide.

Requirements:

6.0 Design Drawing / Diagrams must ideally be prepared in accordance with CFTO D-01-400-002/SF-000 Specification for Levels of Engineering Drawings and Associated Lists.

7.0 If the Contractor wishes to use alternate drawing breakdown, or if existing Contractor or Classification Society approved Drawings / Diagrams that are being provided as part of the Design Drawing package do not meet the standard referenced in 6.0, then the Contractor must submit documentation / samples describing these practices to Canada for review and acceptance.

8.0 Design Drawing / Diagrams must ideally be prepared in accordance with CFTO D-01-400-001/SG-000 Standard Engineering Drawing Practices. Failing that they must be prepared in accordance with ASME Y.100M Engineering Drawing and Practices.

9.0 If existing Contractor or Classification Society approved Design Drawings / Diagrams that are being provided as part of the Design Drawing package were not prepared to the standards referenced in 8.0, then the Contractor must submit documentation / samples describing these practices to Canada for review and acceptance.

10.0 Parts lists must be prepared integral with the drawings. On multi-sheet drawings, the parts list must be placed on sheet 1.

11.0 The Contractor must prepare a family tree drawing that depicts, in a top-down breakdown block diagram, the parent child relationships of the items in the drawing package.

12.0 The Contractor must be fully responsible for the integration of the new and existing drawings to form a complete Design Drawing package.

13.0 Canada must have rights to data as detailed in the Terms and Conditions of the contract.

14.0 The Contractor must mark all Foreground & Background Engineering Drawings / Diagrams delivered under the Contract with a complete notation as detailed at “Intellectual Property Rights” and/or “Data Rights” clause(s) of the contract.

15.0 Upon acceptance, Engineering Drawings, Associated Lists and Reference Data must be delivered in soft copy form as outlined herein.

16.0 The media form for final delivery of electronic data must be Digital Versatile Disc (DVD), written in accordance with ISO 9660 Information Processing - Volume and File Structure of CD-ROM for Information Interchange (File compression software must not be used). Each DVD and its case must be labeled or marked in a method of the Contractor's choosing. Each label or marking must display the Batch Number, Contract / Task number and the date the DVD was created.

17.0 Specific Requirements for drawings are:

a. General:

1) System design details, i.e. piping runs, sizes, etc. must be sufficiently and clearly defined in system drawings to facilitate installation of the equipment and system;

b. Auxiliary Systems:

1) A separate diagram must be provided for each system;

2) The diagram must include the major components of the systems in their approximate locations in relation to the ship and associated components;

3) The diagram must indicate the material schedule (schedule of piping, valves and fittings), flow rate, temperature, pressure, and all devices which measure, control or modify the flow or pressure. Pumps, heat exchangers, valves, gages, etc. must be clearly identified;

4) The diagram must contain data tables indicating the service, capacity and pressure for each major equipment item within the system (e.g. pump, eductor, ballast water treatment unit, heat exchangers, etc.);

5) Data tables must also be provided to indicate the make, model and characteristics of specialty valves, regulating and control devices; and

6) The diagram must use symbols in accordance with ANSI (American National Standards Institute) standards and contain a list of symbols for the components within the diagram. Notes describing special features of components, and their identification, which are unique to the system operation must be included. All valves and pipe lines must be identified in same manner as labels and tags on the vessel.

c. Machinery Arrangement Drawings

1) The drawings must show plan, elevation, and section views of main and auxiliary machinery spaces. Principal units are to be identified, including clearances for

maintenance and inspection.

d. Accommodation, and Service Space Arrangement Drawings and Outfit

1) The drawings must show plan, elevation, and section views of the spaces;

2) The level of detail of the Arrangement and Outfit drawings must be sufficient to enable the complete outfitting of all of the specified spaces within the NLT; and

3) Drawings must detail the overall arrangement of the spaces showing the locations and arrangement of equipment, furnishings, and fixtures in the space. This drawing must demonstrate that the space meets all of the requirements for area, functionality, space and accessibility.

Deliverables:

18.0 Design Drawings must be provided as per this Statement of Work, the Contract Data Requirement Lists, and the Data Item Descriptions.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-013 Build Strategy**	DATA ITEM NUMBER: DID-M-013
DESCRIPTION/PURPOSE: To define the required content of strategy that the Contractor is proposing for the construction of the Large Naval Tugs (NLTs) including the construction methodology, construction techniques and proposed shipyard facilities together with any risks the Contractor envisages in implementing this strategy.	
RELATED DIDS: DID-M-001 Project Management Plan DID-M-002 Master Plan and Schedule DID-M-003 Quality Plans DID-M-004 Risk and Opportunity Management Plan	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 The Build Strategy must be developed in the Contractor's format and delivered as a Microsoft Office Word 2013 document.

Requirements:

2.0 Submission at Preliminary Design review must include:

a. The level of fabrication, assembly, outfitting and integration at various stages of the construction process;

b. How the NLTs Build Strategy supports the delivery schedule;

c. Long lead time materials and contractor furnished material;

d. Design aspects driven or dependent on the build strategy;

e. Production concerns such as industrial base capabilities and limitations; and

f. Description of current & planned shipyard facilities.

3.0 Submission at Critical Design Review must include updates to the above and also:

a. Items categorized as any one, or combination of, the following attributes: high cost, high risk, or long lead time. The Contractor must provide details of how the production, delivery and integration of these items will be completed;

b. A timeline for ordering long lead time material with supporting vendor/supplier data;

c. The major equipment to be used in the vessel's construction. If major equipment is needed but is not currently available at the Contractor's Facilities, the Contractor must verify the necessary equipment can be purchased or rented; and

d. The Contractor must demonstrate that the Contractor's Facilities are adequate to execute their Vessel's Build Strategy, including but not limited to the following:

1) Maximum Lift Capacity;

2) Plate Handling/Bending/Rolling Limitations;

3) Unit/Assembly Size Limitations;

4) Blast & Paint Facility;

5) Burning Machines;

6) Pipe Bending Machines;

7) Robotic Equipment;

8) Launch Capability;

9) Shore power capacity and quality; and

10) All other major pieces of equipment that will aid the Shipyard in construction.

Deliverables

4.0 One (1) electronic copy of the Build Strategy must be provided by the Contractor 15 Working Days prior to the Preliminary Design Review.

5.0 One (1) electronic copy of Build Strategy must be provided by the Contractor 15 Working Days prior to the Critical Design Review.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-M-014 Photographs**	DATA ITEM NUMBER: DID-M-014
DESCRIPTION/PURPOSE: To define the required format of the photographs that the Contractor must take and process for delivery to Canada.	
RELATED DIDS:	REFERENCES: ISO/IEC 10918-1:1994 ISO/IEC 15948:2003

PREPARATION INSTRUCTIONS:

Format:

1.0 The Contractor must take and deliver digital photographs as required in accordance with this DID.

Requirements:

2.0 All photographs must be delivered at the native resolution in which they were taken.

3.0 Progress photographs must be at least 2240 x 1680 pixels (4 megapixels).

4.0 Display photographs must be at least 3264 x 2448 pixels (8 megapixels).

5.0 Interior and exterior spaces photographs must be at least 2240 x 1680 pixels (4 megapixels).

6.0 All photographs must be delivered in either ISO/IEC 10918-1:1994 Joint Photographic Experts Group (JPEG) or ISO/IEC 15948:2003 Portable Network Graphics (PNG) format with no special requirements required to view the photographs.

7.0 All photographs must be delivered with the original Exchangeable Image File Format (EXIF) tags for date and time unmodified.

8.0 All photographs must be delivered digitally, in full color with a file name format that provides a clear indication of the subject of the photograph (including location), the date the photograph was taken and the deliverable it is related to.

Deliverables:

9.0 Photographs must be provided as per this Statement of Work, Contract Data Requirement Lists, and DIDs.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-CM-001 Compliance Verification Matrix**	DATA ITEM NUMBER: DID-CM-001
DESCRIPTION/PURPOSE: To define how the Contractor must demonstrate that all aspects of the design comply with the requirements contained in the Systems Requirement Document.	
RELATED DIDS: DID-M-001 Project Management Plan	REFERENCES: Transport Canada Regulatory Regime Classification Society Rules

PREPARATION INSTRUCTIONS:

Format:

1.0 The Compliance Verification Matrix must be in the Contractor's format and delivered as a Microsoft Office Excel 2013 document.

Requirements:

2.0 For each specific requirement within the Naval Large Tug Final Systems Requirement Document (SRD), the Contractor must identify the objective evidence in the form of a provided deliverable that demonstrates that the requirement has been met by the design.

3.0 In addition to the specific requirements within the Final SRD, the Contractor must also demonstrate compliance, in the Compliance Verification Matrix, with Transport Canada Regulatory Regime or Class requirements that amplify or govern Final SRD requirements.

4.0 Objective evidence may take the form of a drawing, report or trial called for in an existing DID. However, the existing DIDs should not be considered exhaustive. Where the Contractor determines that additional objective evidence, in the form of analysis or a report is required, the Contractor must provide these analyses or reports in a Contractor developed format.

5.0 It is expected that the Compliance Verification Matrix will develop progressively as the design matures.

6.0 In addition to the objective evidence to be delivered during design, the Contractor must also consider and identify inspections, tests and trials that would be appropriate to demonstrate Final SRD requirements during build and vessel acceptance.

Deliverables:

7.0 One (1) electronic copy of the Compliance Verification Matrix must be provided to Canada by the Contractor 15 Working Days prior to the Preliminary Design Review.

8.0 One (1) electronic copy of Compliance Verification Matrix must be provided to Canada by the Contractor 15 Working Days prior to the Critical Design Review.

9.0 One (1) electronic copy of the Compliance Verification Matrix must be provided to Canada by the Contractor 15 Working Days prior to the Acceptance Review for each vessel.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-E-001 Weights and Centre of Gravity Report**	DATA ITEM NUMBER: DID-E-001
DESCRIPTION/PURPOSE: To define the content of the report that the Contractor must prepare and submit to present the weight and centre of gravity estimates.	
RELATED DIDS: DID-M-008 Monthly Progress Report DID-E-002 Trim, Stability and Freeboard Report DID-TT-003 Inclining Test Program	REFERENCES: CFTO D-03-003-024/SG-001, Work Breakdown Structure for Canadian Forces Ships and Submarines ASTM F1808 Standard Guide for Weight Control Technical Requirements for Surface Ships

PREPARATION INSTRUCTIONS:

Format:

1.0 The Weights and Centre of Gravity Report and weights and center of gravity calculations and data must be in book form as a Microsoft Office Word 2013 document and as Microsoft Office Excel 2013 spreadsheet documents.

Requirements:

2.0 Preferably the Weight and Centre of Gravity Report should be presented in accordance with Canadian Forces Technical Order D-03-003-024/SG-001, Work Breakdown Structure for Canadian Forces Ships and Submarines. However, the Work Breakdown Structure (WBS) for the existing Proven Parent In-Service Vessel is acceptable provided there is a logical demarcation of the weight estimate between the:

a. Hull Structure;

b. Propulsion System;

c. Electrical System;

d. Electronic Systems;

e. Auxiliary Systems; and

f. Outfit and Furnishing.

3.0 The Weight and Centre of Gravity Report must include the following:

a. Executive Summary describing current weight and centres of gravity;

b. Summary Table of the current weight estimate;

c. Table indicating differences between the current and previous weight estimate for each WBS group;

d. Summary of updates / changes to the weight estimate;

e. Assessment of current margins in the weight estimate and recommendations on changes, if applicable;

f. Impact of updates on the NLT's stability;

g. Lightship Weight Summary;

h. Loading Conditions for Stability Analysis; and

i. Detailed Lightship Weight Report (to an equipment level of detail).

4.0 Each element in the detailed Weights and Centre of Gravity Report must include:

a. A WBS Identifier;

b. A brief description of the item including make and model number;

c. The weight in kilograms to one decimal place;

d. The identity of the source of the weight (estimated, calculated, vendor supplied or weighed); and

e. Longitudinal, transverse and vertical centre of gravity coordinates in meters to two (2) decimal places.

5.0 The Contractor must customize a weight control program based on the industry standard ASTM

F1808 Standard Guide for Weight Control Technical Requirements for Surface Ships.

6.0 The Contractor must include in the weight estimates, for both the Preliminary Design Review and the Critical Design Review, the remaining design margin and the weight and centre of gravity allocation of the construction margin.

7.0 On lead ship completion, and following the Inclining Experiment on this first of class, the Weight and Centre of Gravity Report must be updated to reflect the as inclined lightship by the addition of a one line inclining correction.

8.0 For all subsequent vessels, provided that the lightship displacement is within 2%, at the same time the Longitudinal Centre of Gravity (LCG) is within 0.5% of the first of class, the first of class Weight and Centre of Gravity Report can be used as is; otherwise, separate inclining will be required.

9.0 As the weight reports are updated Canada must be informed of discrepancies that will negatively affect vessel performance.

Until the NLTs are accepted by Canada, the Contractor must monitor the weight for each vessel and report monthly to Canada, as part of the Monthly Progress Report (DID-M-008).

Deliverables:

10.0 One (1) electronic copy of the Weight and Centre of Gravity Report must be provided by the Contractor 15 Working Days prior to the Preliminary Design Review.

11.0 One (1) electronic copy of the Weight and Centre of Gravity Report must be provided by the Contractor 15 Working Days prior to the Critical Design Review.

12.0 One (1) electronic copy of the Weight and Centre of Gravity Report must be provided by the Contractor 15 Working Days prior to the Acceptance Review for each vessel as part of the Acceptance Review Data Package.

13.0 One (1) electronic copy of the Weight and Centre of Gravity Report must be provided by the Contractor 15 Working Days prior to delivery of the first and all subsequent vessels.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-E-002 Trim, Stability and Freeboard Report**	DATA ITEM NUMBER: DID-E-002
DESCRIPTION/PURPOSE: To define the content of the report that the Contractor must prepare and submit to demonstrate that the design meets the minimum freeboard, intact and damaged stability requirements.	
RELATED DIDS: DID-E-001 Weights and Centre of Gravity Report DID-TT-003 Inclining Test Program	REFERENCES: TP 7301, STAB 1 CFTO C-03-001-024/MS-006 The Production of Stability Books for Canadian Forces Surface Ship IMO International Code on Intact Stability, 2008 IMO Resolution MSC.415(97)

PREPARATION INSTRUCTIONS:

Format:

1.0 The Trim, Stability and Freeboard Report (TSFR) must be presented in book form in accordance with the guidelines in TP 7301, STAB 1 and Canadian Forces Technical Order C-03-001-024/MS-006 The Production of Stability Books for Canadian Forces Surface Ship and delivered as a Microsoft Office Word 2013 document.

2.0 The stability electronic files (including all files required to make the TSFR) must be delivered to the Technical Authority in readable GHS format including input run files and geometry files.

Requirements:

3.0 The TSFR must contain stability data and details for each of the following loading conditions in salt and fresh water:

a. Lightship Condition - ship completely outfitted for sea but with no crew or stores and with all fuel, fresh water and water ballast tanks empty;

b. Departure Condition - lightship condition, plus crew, full fuel, water and stores normally distributed;

c. Arrival Condition - lightship condition, plus crew, 10% fuel, 10% water and 10% stores normally distributed;

d. Worst Designed Operating Condition - any condition likely to be encountered in service in which the distribution and quantity of consumables produce lower values of GZ and/or GM than conditions (b) or (c) above;

e. Worst Operating Condition with the accumulation of ice;

f. In addition to the requirements set forth by Canadian Forces Technical Order C-03-001-024/MS-006 The Production of Stability Books for Canadian Forces Surface Ship Part 5 – Type III Stability, the tug's intact stability should also be assessed against IMO International Code on Intact Stability, 2008 (2008 IS Code) including its Amendments made by the IMO Resolution MSC.415(97), as applicable;

g. Maximum transverse heeling moments produced by the fire monitors when in operation must be included in Worst Design Operation Condition; and

h. Heeling moments produced by lifting operation of the deck crane should be included in the Worst Design Operation Condition; however, those heeling moments are not necessarily to be applied with the fire monitor heeling moments simultaneously.

The TSFR must also contain:

a. A List of Principal Particulars:

1) Length (overall);

2) Length (between perpendiculars);

3) Beam;

4) Depth (to freeboard deck);

5) Load Line Draft;

6) Load Line Displacement;

7) Lightship Draft;

8) Lightship Displacement;

9) Lightship VCG;

10) Lightship LCG;

11) Lightship TCG; and

12) Ship's Complement.

b. Tank capacities, center of gravity (individual and totals);

c. Tank sounding tables;

d. Hydrostatics and cross curves (KN) table; and

e. The exact position of all draft marks must be shown on the ship's docking plan and the trim and stability manual.

4.0 All numerical data provided in the Stability Analysis must be presented in the following units:

a. Length, Draft, VCG, LCG, TCG – Metres (m);

b. All Tank Capacities – Cubic Metres (m^3) and Metric Tons (MT);

c. Dry Cargo – Metric Tons (MT); and

d. Liquid Cargo – Cubic Metres (m^3) and Metric Tons (MT).

Deliverables:

5.0 One (1) electronic copy of the TSFR must be provided by the Contractor 15 Working Days prior to the Preliminary Design Review.

6.0 One (1) electronic copy of the TSFR must be provided by the Contractor 15 Working Days prior to the Critical Design Review.

7.0 One (1) electronic copy of the TSFR must be provided by the Contractor 15 Working Days prior to the Acceptance Review for each vessel as part of the Acceptance Review Data Package.

8.0 One (1) electronic copy of the TSFR must be provided by the Contractor 15 Working Days prior to delivery of the first and all subsequent vessels.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-E-003 Electrical Load Analysis and Report**	DATA ITEM NUMBER: DID-E-003
DESCRIPTION/PURPOSE: To define the content of the report, and associated drawings, that the Contractor must prepare and submit to show the aggregate power demands of all electrical loads on the Naval Large Tug under various operating conditions.	
RELATED DIDS: DID-M-012 Design Drawings DID-E-001 Weights and Centre of Gravity Report	REFERENCES: IEEE 45 Recommended Practice for Electric Installations on Shipboard ISO 8528-1 Reciprocating internal combustion engine driven alternating current generating sets -- Part 1: Application, ratings and performance Classification Society Rules
PREPARATION INSTRUCTIONS: Format: 1.0 The Electrical Load Analysis (ELA) and Report must be in book form delivered as a Microsoft Office Word 2013 document and in a tabular Microsoft Office Excel 2013 document. 2.0 The results should preferably be presented using the same Work Breakdown Structure (WBS) as used in the Weight and Centre of Gravity Report (DID-E-001). However, the WBS for the Electrical Load Analysis for the Proven Parent In-Service Vessel is acceptable. 3.0 The ELA and Report must include text, graphs and supporting calculations. 4.0 Supporting drawings must be presented in a format as indicated in DID-M-012 Design Drawings.	

5.0 All circuits must be identified using the circuit designations in IEEE 45. Where designations for systems are not available in IEEE 45, the Contractor must submit proposals to the Technical Authority for approval.

Requirements:

6.0 The ELA must consist of a complete tabulation, by WBS Group, of all user equipment, their connected power and the estimated power required under various operating states of the ship for both Alternating Current (AC) and Direct Current (DC) systems.

7.0 The operating states to be considered must include:

a. Vessel Alongside on Shore Power;

b. Vessel Alongside on Ship's Power;

c. Vessel Towing;

d. Steaming at Maximum Speed;

e. Steaming at Cruising Speed;

f. Mission at low speed;

g. Emergency.

8.0 For each state, both hot and cold climatic conditions must also be considered, as well as any different power operating conditions (e.g., one versus two or more generators operating).

9.0 Calculations must be tabulated and totals provided to confirm the sizing of various elements of the electric plant, such as generators, transformer banks and power conversion equipment. Loads controlled by automatic load shedding must be noted.

10.0 Estimated Demand Factors (IEEE 45 Definition) and Diversity Factors must be applied for all conditions.

11.0 The ELA must include the kilowatt (kW), kilo-volt-ampere (kVA) and power factor ratings of the selected equipment to be installed and the quantities and usage factors for all electrical consumers. All loads are to be categorized as either estimated or vendor specific equipment values. All expected margins and losses must be incorporated into the ELA.

12.0 A summary of the aggregate loads with estimated demand factors are required for each of the WBS Groups presented.

13.0 A single line diagram must be provided by the Contractor to illustrate the proposed electrical system configurations. These drawings must include generation equipment, capacity levels, points of transfer or switching, distribution arrangements and significant loads.

14.0 Preliminary equipment ratings, such as generator and motor ratings, transformer kVA and circuit breaker sizes must be indicated.

15.0 The ELA Report must include a description of the electrical distribution system and its components.

16.0 The ELA Report must include a description of the power management systems and operation of the system including supporting calculations used to size and specify battery banks, chargers, transforming equipment, inverters, converters, panels and alternators.

17.0 The ELA Report must also describe how the design complies with the Final SRD, statutory regulations and Classification Society requirements.

18.0 The Contractor must perform and submit a short circuit fault current analysis of the system to select the appropriate circuit breakers for overload and short-circuit protection.

19.0 In support of generator set selection, the Contractor must provide statistical data pertinent to the generator set including the following:

a. ISO 8528-1 power rating, performance, specific fuel consumption, lubricating oil consumption;

b. Adjusted rating for unrestricted service and Classification Society type approval certificate; and

c. Reliability and maintenance data such as hours between oil and filter changes, and hours between overhaul.

Deliverables:

20.0 One (1) electronic copy of the ELA and Report must be provided by the Contractor 15 Working Days prior to the Preliminary Design Review.

21.0 One (1) electronic copy of the ELA and Report must be provided by the Contractor 15 Working Days prior to the Critical Design Review.

22.0 One (1) electronic copy of the ELA and Report must be provided by the Contractor 15 Working Days prior to the Acceptance Review for each vessel as part of the Acceptance Review Data Package.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-E-005 Bridge Arrangement**	DATA ITEM NUMBER: DID-E-005
DESCRIPTION/PURPOSE: To define the details that the Contractor must provide that will demonstrate that the Bridge Arrangement meets all of the requirements specified in the Final SRD as well as the associated standards.	
RELATED DIDS: DID-M-012 Design Drawings	REFERENCES: Transport Canada Regulatory Regime

PREPARATION INSTRUCTIONS:

Format:

1.0 The Bridge Arrangement drawing must be presented in a format as indicated in DID-M-012 Design Drawings.

2.0 Supporting documentation can be presented in Contractor developed format.

3.0 Sightlines must be demonstrated by 3D modeling.

Requirements:

4.0 The Bridge Arrangement drawing must provide annotated plan, profile and sectional views through the Bridge showing the location of all fitted equipment, outfit and furnishing.

5.0 The Bridge Arrangement drawing must include the location of all bridge consoles, equipment and items of outfit to demonstrate that the size of the bridge and the layout meets the requirements to support normal operations.

6.0 At the Preliminary Design Review (PDR) the Bridge Arrangement Drawing need only show the size and location of the Bridge and Machinery Console.

7.0 At the Critical Design Review (CDR) separate drawings must be provided for both the Bridge and

Machinery consoles indicating the detailed arrangement of each.

8.0 Supporting documentation must demonstrate that the proposed Bridge Arrangement meets the Final SRD and the Transport Canada Regulatory Regime.

9.0 The supporting documentation must describe the methodology used to optimize the layout and the functional and operational factors considered during development of the layout.

10.0 The supporting documentation must include a copy of the drawings and computer graphics used to provide a perspective of equipment locations, sightlines and the ergonomics to be encountered by Bridge staff.

Deliverables:

11.0 One (1) electronic copy of the Bridge Arrangement and supporting documentation must be provided by the Contractor 15 Working Days prior to the PDR.

12.0 One (1) electronic copy of the Bridge Arrangement and supporting documentation must be provided by the Contractor 15 Working Days prior to the CDR.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-E-006 Preliminary Design Review Data Package**	DATA ITEM NUMBER: DID-E-006
DESCRIPTION/PURPOSE: To define the content of the data package that the Contractor must prepare, submit and present at the Preliminary Design Review for consideration, discussion, agreement and further development during the Detailed Design Phase.	
RELATED DIDS: DID-M-012 Design Drawings DID-M-013 Build Strategy DID-E-001 Weights and Centre of Gravity Report DID-E-002 Trim, Stability and Freeboard Report DID-E-003 Electrical Load Analysis and Report DID-E-005 Bridge Arrangement DID-TT-001 Dock Trials Program DID-TT-002 Sea Acceptance Trials Program	REFERENCES: CFTO D-23-003-005/SF-002 Specification for Maintenance Painting of HMC Ships ISO 3046-1 Reciprocating internal combustion engines -- Performance -- Part 1: Declarations of power, fuel and lubricating oil consumptions, and test methods -- Additional requirements for engines for general use
PREPARATION INSTRUCTIONS: Format: 1.0 The Preliminary Design Data Package must consist of drawings, reports and analysis. Reports and analysis can be in Contractor developed format but must be provided in Microsoft Office Suite 2013 documents as appropriate for the content.	

2.0 Drawings must be produced in accordance with DID-M-012 Design Drawings.

Requirements:

3.0 The Contractor must provide, as a minimum, the following information, drawings and background material for the Preliminary Design Review in addition to those required by other DIDs:

a. General:

1) General Arrangement – Including outboard profile, centre line profile, decks and deckhouse top including mast;

2) Main Machinery Room - Detailed arrangement demonstrating functionality of equipment and layout for required operations and maintenance;

3) Auxiliary Machinery Room(s) (if fitted) - Detailed arrangement demonstrating functionality of equipment and layout for required operations and maintenance;

4) Galley - Detailed arrangement demonstrating functionality of equipment and layout for required use;

5) Mess / Lounge - Detailed arrangement demonstrating functionality of fittings and layout for required use;

6) Cabins - Detailed arrangement demonstrating functionality of fittings and layout for required use;

7) Store Rooms - Detailed arrangement demonstrating functionality of fittings and layout for required use;

8) Lines Plan;

9) Table of Offsets;

10) Tank Capacity Plan; and

11) Drawings depicting the Proven Parent In-Service Vessel operating under the flare of RCN vessels.

b. Structural Drawings including arrangements for all cable penetrations of deck and bulkhead:

1) Structural Profile and Decks;

2) Mid-Ship Section;

3) Structural Sections;

4) Deckhouse and Bulwarks;

5) Shell Plating and Framing Expansion;

6) Transverse and Longitudinal Bulkheads;

7) Structural and Non Structural Tanks;

8) Mast Structure; and

9) Skeg Construction (if applicable).

c. Outfit Drawings:

1) Fender Arrangement;

2) Towing Arrangement and Fittings; and

3) Anchors and Mooring Arrangement.

d. Schedules Lists and Plans:

1) Doors and Hatches Schedule;

2) Windows, and Portlights and Sidelights Schedule;

3) Lifesaving Equipment Plan; and

4) Fire Protection, Fire Fighting and Emergency Equipment Arrangement.

e. Electrical and Electronic Drawings:

1) Main Electrical Equipment Arrangement; and

2) Electrical System Single Line Diagram.

f. Calculations and Analysis:

1) Hydrodynamic Performance – derived from Proven Parent inclusive of the environment conditions outlined in the Final SRD;

2) Speed, Power, Range and Endurance Report;

3) Anode requirements and location;

4) Bollard Pull Calculations;

5) Build Strategy (DID-M-013);

6) Compliance Verification Matrix (DID-CM-001);

7) Weights and Centre of Gravity Report (DID-E-001);

8) Trim, Stability and Freeboard Report (DID-E-002);

9) Electrical Load Analysis (DID-E-003);

10) Bridge Arrangement (DID-E-005);

11) Dock Trials Program (DID-TT-001); and

12) Sea Acceptance Trials Program (DID-TT-002).

Requirements:

4.0 The Contractor must submit calculations and data to the Technical Authority (TA) that demonstrates that the design and the selected equipment and components satisfy the intent of the Final SRD.

5.0 The Contractor must submit a Schedule of Deck Coverings with samples of coverings from which the Technical Authority can make specific selections.

6.0 The Contractor must submit a Piping Schedule that provides details of components and isolation to minimize galvanic corrosion.

7.0 The Contractor must submit a Painting Schedule for the vessels following the application requirements of Canadian Forces Technical Order D-23-003-005/SF-002, Specification for Maintenance Painting of HMC Ships.

8.0 The Contractor must submit a schedule of all cables fitted, listing type, voltage and temperature rating, number and size of conductors, current rating, identification number, and weight per metre must be submitted to TA.

9.0 The Contractor must provide an Engine International Air Pollution Prevention Certificate and statistical data pertinent to the proposed diesel engines including the following: standard power rating, the specific fuel consumption, and lubricating oil consumption as prescribed in ISO 3046-1 Reciprocating internal combustion engines - Performance Part 1: Declarations of power, fuel and lubricating oil consumptions, and test methods - Additional requirements for engines for general use.

Deliverables:

10.0 One (1) electronic copy of the Preliminary Design Data Package must be provided by the Contractor 15 Working Days prior to the Preliminary Design Review.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-E-007 Critical Design Review Data Package**	DATA ITEM NUMBER: DID-E-007
DESCRIPTION/PURPOSE: To define the contents of the data package that the Contractor must prepare, submit and present at the Critical Design Review for consideration, discussion and, agreement before the Production Engineering Package is finalized.	
RELATED DIDS: DID-M-012 Design Drawings DID-M-013 Build Strategy DID-E-001 Weights and Centre of Gravity Report DID-E-002 Trim, Stability and Freeboard Report DID-E-003 Electrical Load Analysis and Report DID-E-005 Bridge Arrangement DID-TT-001 Dock Trials Program DID-TT-002 Sea Acceptance Trials Program DID-ILS-001 Master Equipment List DID-ILS-002 Hazardous Materials Database DID-ILS-004 Maintenance Analysis Report DID-ILS-005 Recommended Spare Parts List	REFERENCES: CFTO D-23-003-005/SF-002 Specification for Maintenance Painting of HMC Ships

DID-T-001 Training Plan	

PREPARATION INSTRUCTIONS:

Format:

1.0 The CDR Data Package must consist of drawings, reports and analysis. Reports and analysis can be in Contractor Developed formats and delivered as a Microsoft Office Word 2013 document. Drawings must be produced in accordance with DID-M-012 Design Drawings.

Requirements:

2.0 The Contractor must provide, as a minimum, the following information, drawings and background material for the CDR in addition to those required by other DIDs:

a. General:

1) General Arrangement – Including outboard profile, centre line profile, decks and deckhouse top including mast;

2) Main Machinery Room - Detailed arrangement demonstrating functionality of equipment and layout for required operations and maintenance;

3) Auxiliary Machinery Room(s) (if fitted) - Detailed arrangement demonstrating functionality of equipment and layout for required operations and maintenance;

4) Galley - Detailed arrangement demonstrating functionality of equipment and layout for required use;

5) Mess / Lounge - Detailed arrangement demonstrating functionality of fittings and layout for required use;

6) Cabins - Detailed arrangement demonstrating functionality of fittings and layout for required use;

7) Store Rooms - Detailed arrangement demonstrating functionality of fittings and layout for required use;

8) Lines Plan;

9) Table of Offsets;

10) Tank Capacity Plan; and

11) Shafting Arrangement.

b. Structural Drawings including arrangements for all cable penetrations of deck and bulkhead:

1) Structural Profile and Decks;

2) Mid-Ship Section;

3) Structural Sections;

4) Deckhouse and Bulwarks;

5) Shell Plating and Framing Expansion;

6) Transverse and Longitudinal Bulkheads;

7) Structural and Non Structural Tanks;

8) Mast Structure;

9) Skeg Construction (if applicable);

10) All Machinery and Equipment Foundations, where resilient mountings are installed, the type and quantity of the mounting must be listed;

11) Deck Machinery Foundations including Towing Arrangements, where resilient mountings are installed, the type and quantity of the mounting must be listed; and

12) Welding Schedule.

c. Outfit Drawings:

1) Fender Arrangement;

2) Towing Arrangement and Fittings;

3) Anchor and Mooring Arrangement.

d. Schedules Lists and Plans:

1) Doors and Hatches Schedule;

2) Windows, and Portlights and Sidelights Schedule;

3) Lifesaving Equipment Plan;

4) Fire Protection, Fire Fighting and Emergency Equipment Arrangement.

5) Paint Schedule;

6) Deck Covering Schedule;

7) Insulation Schedule;

8) Minor Bulkhead and Joiner Bulkhead Plan; and

9) Docking Plan and Draft Marks.

e. System Diagrams, Arrangements, Piping and Instrumentation, including calculations to support proposed dimensions of all service lines along with information such as pipe size, length, fluid flow and pressure drop, margins for corrosion, erosion, and mechanical effects:

1) Engine Air Intake and Exhaust Arrangement;

2) HVAC System Diagram;

3) Ventilation and Exhaust Arrangements and Details;

4) Off Ship Firefighting System Diagram;

5) Off Ship Firefighting System Arrangement;

6) Fixed Fire Extinguishing/Suppression Systems;

7) Bilge and Ballast System;

8) Diesel Fuel Oil System;

9) Hydraulic Systems;

10) Black and Grey Water Sanitary Systems;

11) Machinery Cooling Systems;

12) Scuppers and Deck Drains;

13) Fill, Vent and Sounding System Diagram;

14) Compressed Air Systems;

15) Lube Oil Systems; and

16) Hot and Cold Potable Water Systems.

f. Alarm, Monitoring and Control Systems:

1) Propulsion Control System, Monitoring and Alarm;

2) Generator/Electrical System Control, Monitoring and Alarm;

3) Bilge and Fire Monitoring and Alarm;

4) Fire Detection and Suppression System(s) Control;

5) Steering System Monitoring, Control and Alarm; and

6) Centralized Control, Alarm and Monitoring System.

g. Electrical and Electronic Drawings:

1) Main Electrical Equipment Arrangement;

2) Electrical System Single Line Diagram;

3) Interior Communication Diagram;

4) Exterior Communication Diagram;

5) List of Electronic Navigation Appliances;

6) Navigation Light Plan;

7) Lighting Key Plan; and

8) Electrical Cable Schedule listing type, voltage and temperature rating, number and size of conductors, current rating, identification number, and weight per metre.

h. Calculations and Analysis:

1) Hydrodynamic Performance – derived from a parent proven ship inclusive of the environment conditions outlined in the Final SRD;

2) Speed, Power, Range and Endurance Report;

3) Build Strategy (DID-M-013);

4) Weights and Centre of Gravity Report (DID-E-001);

5) Trim, Stability and Freeboard Report (DID-E-002);

6) Electrical Load Analysis (DID-E-003);

7) Bridge Arrangement (DID-E-005);

8) Dock Trials Program (DID-TT-001);

9) Sea Acceptance Trials Program (DID-TT-002);

10) Short Circuit Fault Current Analysis;

11) HVAC System Calculations;

12) Master Equipment List (DID-ILS-001);

13) Hazardous Materials Database (DID-ILS-002);

14) Maintenance Analysis Report (DID-ILS-004);

15) Recommended Spare Parts List (DID-ILS-005);

16) Training Plan (DID-TT-001); and

17) Inclining Test program (DID-TT-003).

Requirements:

3.0 The Contractor must submit calculations and data to the Technical Authority (TA) that demonstrates that the design and the selected equipment and components satisfy the intent of the Final SRD;

4.0 The Contractor must submit a Schedule of Deck Coverings with samples of coverings from which the Technical Authority can make specific selections;

5.0 The Contractor must submit a Piping Schedule that provides details of components and isolation to minimize galvanic corrosion;

6.0 The Contractor must submit a Painting Schedule for the vessels based on Canadian Forces Technical Order D-23-003-005/SF-002, Specification for Maintenance Painting of HMC Ships, to the TA for comment;

7.0 A schedule of all cables fitted, listing type, voltage and temperature rating, number and size of

conductors, current rating, identification number, and weight per metre must be submitted to TA;

8.0 The Contractor must submit intake and exhaust pressure drop calculations to demonstrate that the proposed design must conform to engine manufacturer's minimum and maximum pressure limits.

9.0 HVAC system calculations must be submitted to demonstrate compliance with the Final SRD. The calculations must include:

a. Individual compartment heating and cooling summary sheets (for each compartment);

b. Itemized list of all heating & cooling loads;

c. Ventilation ductwork sizing/pressure drop calculations;

d. Itemized list of all ventilation pressure losses; and

e. Duct sizing appropriate to noise requirements, airflow balancing requirements, and fan selection requirements.

10.0 If a cold water system is fitted, relevant supporting calculations must be submitted, including:

a. Cold water piping sizing/pressure drop calculations; and

b. Itemized list of all cold water piping pressure losses.

Deliverables:

11.0 One (1) electronic copy of the CDR Design Data Package must be provided by the Contractor 15 Working Days prior to the CDR.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-E-010 Acceptance Review Data Package**	DATA ITEM NUMBER: DID-E-010
DESCRIPTION/PURPOSE: To define the contents of the data package that the Contractor must prepare, submit and present at the Acceptance Review for consideration, discussion and agreement for each vessel.	
RELATED DIDS: DID-M-012 Design Drawings DID-E-001 Weights and Centre of Gravity Report DID-E-002 Trim, Stability and Freeboard Report DID-E-003 Electrical Load Analysis and Report DID-TT-001 Dock Test and Trials Report DID-TT-002 Sea Acceptance Trials Report DID-TT-003 Inclining Test Report DID-ILS-001 Master Equipment List DID-ILS-002 Hazardous Materials Database DID-ILS-003 Technical Data Package DID-ILS-004 Maintenance Analysis Report DID-ILS-005 Recommended Spare Parts List DID-ILS-006 Captain's Ship Book	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 Reports and analysis formats must be as described in applicable DIDs. Drawings must be produced in accordance with DID-M-012 Design Drawings.

Requirements:

2.0 The Contractor must provide, as a minimum, the following information, drawings, calculations, analysis, reports and background material for the Acceptance Review (AR) Data Package in addition to those required by other DIDs:

1) Compliance Verification Matrix (DID-CM-001)
2) Weights and Centre of Gravity Report (DID-E-001);
3) Trim, Stability and Freeboard Report (DID-E-002);
4) Electrical Load Analysis (DID-E-003);
5) Dock Test and Trials Report (DID-TT-001);
6) Sea Acceptance Trials Report (DID-TT-002);
7) Inclining Test Report (DID-TT-003);
8) Master Equipment List (DID-ILS-001);
9) Hazardous Materials Database (DID-ILS-002);
10) Technical Data Package (DID-ILS-003);
11) Maintenance Analysis Report (DID-ILS-004);
12) Recommended Spare Parts List (DID-ILS-005); and
13) Captain’s Ship’s Book (DID-ILS-006).

Deliverables:

3.0 One (1) electronic copy of the AR Data Package for each vessel must be provided to Canada by the Contractor fifteen (15) Working Days prior to AR for review and acceptance by Canada.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-TT-001 Dock Trials Program**	DATA ITEM NUMBER: DID-TT-001
DESCRIPTION/PURPOSE: To define the required content of the program that the Contractor must produce in preparing for, and reporting on, the conduct of the dock trials for the Naval Large Tug and its various equipment and components.	
RELATED DIDS: DID-M-002 Master Plan and Schedule	REFERENCES: Classification Society Rules and Regulations

PREPARATION INSTRUCTIONS:

Format:

1.0 The Dock Trials Program must be presented in Contractor's format and delivered as a Microsoft Office Word 2013 document.

2.0 The Dock Trials Program schedule must be delivered as a Microsoft Project 2013 document.

Requirements (before conduct of dock trials):

3.0 The Dock Trials Program must outline the Contractor's test and trial policy, describing, in general, how tests and trials will be sequenced so that the end result is a vessel which has had every component and system proven as properly installed and functional.

4.0 The Dock Trials Program must give a detailed description of all test and trial stages and which tests and trials will be conducted in those stages, outlining the logic behind the sequencing.

5.0 The Dock Trials Program must describe the structure of the test and trial organization and any responsibility and reporting lines within that structure.

6.0 The Dock Trials Program must describe the planned conduct of each tests and trial.

7.0 The Dock Trials Program must provide a purpose for each test or trial, along with the specification

requirement/reference it pertains to.

8.0 The Dock Trials Program must provide any prerequisites which must be met prior to conducting each test or trial.

9.0 The Dock Trials Program must outline the conditions or parameters under which each test or trial is to be conducted, including any safety precautions peculiar to that particular test or trial.

10.0 The Dock Trials Program must give details of applicable statutory regulatory requirements to be met for each test or trial and any Class requirements.

11.0 The Dock Trials Program must give a detailed description of the steps required to conduct each test or trial.

12.0 The Dock Trials Program must provide a Record Sheet for each test or trial which must include check-off lists for readings and observations that should be taken during the test or trial and space for recording the readings, observations and data that are collected. The Record Sheet must be appended to each plan and procedure prior to the commencement of the test or trial.

13.0 The Dock Trials Program must include the following as a minimum for each trial:

a. The list of prerequisite mandatory inspection reports required in order to proceed with the Dock trials;

b. The detailed list of supplies and systems required including, but not limited to, as applicable:

1) Electrical power supply;

2) Air, fuel, oil and water supplies;

3) Communication systems required; and

4) Alarm & monitoring system communications required.

c. The list of the personnel required for:

1) Vessel operation;

2) The readings and data collection; and

3) The vessel’s lines handling.

d. The list of the mandatory personnel attendance including as applicable:

1) Canada;

2) Class;

3) Regulatory Bodies;

4) Inspection Authority; and

5) Original Equipment Manufacturer.

e. The safety requirements onboard and on the pier;

f. The list of approved test and data sheets to be filled during the trial;

g. The sequential order and type of trials to be conducted on the equipment and their respective performances to be obtained.

14.0 A schedule must be incorporated into the Dock Trials Program and provide an estimated duration in days for each of the main activities described.

Requirements (after conduct of dock trials):

15.0 Following conduct of the dock trials any deviations from the last version of the Dock Trials Program provided to Canada by the Contractor must be appended to the Dock Trials Program in detail with any supporting documentation and / or explanation as required to demonstrate that the integrity of the testing has not been compromised.

16.0 Following conduct of the dock trials the results of the dock trials must be appended to the Dock Trials Program. The results must be presented on a trial by trial basis, explaining clearly the result and indicating whether the result verifies or proves the specification requirement/reference it pertains to.

17.0 Following conduct of the dock trials copies of the Record Sheet and any calibration records for each test or trial must be appended to the Dock Trials Program.

Deliverables

18.0 One (1) electronic copy of the Draft Dock Trials Program must be provided by the Contractor 15 Working Days prior to the Preliminary Design Review.

19.0 One (1) electronic copy of the Final Dock Trials Program must be provided by the Contractor 15 Working Days prior to the Critical Design Review.

20.0 Any changes to the Dock Trials Program must be provided not later than 30 Working Days prior to the planned start date of each test or trial.

21.0 One (1) electronic copy of the Dock Trials Program and two signed hard copies (one of which contains the original signed trials data sheets) must be provided by the Contractor 15 Working Days prior to the Acceptance Review for each vessel as part of the Acceptance Review Data Package.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-TT-002 Sea Acceptance Trials Program**	DATA ITEM NUMBER: DID-TT-002
DESCRIPTION/PURPOSE: To define the required content of the program that the Contractor must produce in preparing for, and reporting on, the conduct of the Sea Acceptance Trials for the Naval Large Tug and its various equipment's and components.	
RELATED DIDS: DID-M-002 Master Plan and Schedule	REFERENCES: Classification Society Rules and Regulations

PREPARATION INSTRUCTIONS:

Format:

1.0 The Sea Acceptance Trials Program must be presented in the Contractor's format and delivered as a Microsoft Office Word 2013 document.

2.0 The Sea Acceptance Trials Program schedule must be delivered as a Microsoft Project 2013 document.

Requirements (prior to conduct of Sea Acceptance Trials):

3.0 The Sea Acceptance Trials Program must outline the Contractor's trial policy, describing, in general, how trials will be sequenced so that the end result is a vessel which has had every component and system proven as properly installed and functional.

4.0 The Sea Acceptance Trials Program must give a detailed description of all trial stages and which trials will be conducted in those stages, outlining the logic behind the sequencing.

5.0 The Sea Acceptance Trials Program must describe the structure of the trial organization and any responsibility and reporting lines within that structure.

6.0 The Sea Acceptance Trials and Procedure must describe the conduct of each trial.

7.0 The Sea Acceptance Trials Program must provide a purpose for each trial, along with the specification requirement/reference it pertains to.

8.0 The Sea Acceptance Trials Program must provide any prerequisites which must be met prior to conducting each trial.

9.0 The Sea Acceptance Trials Program must outline the conditions or parameters under which each trial is to be conducted, including any safety precautions peculiar to that particular trial.

10.0 The Sea Acceptance Trials Program must give details of applicable statutory regulatory requirements to be met for each trial and any Class requirements.

11.0 The Sea Acceptance Trials Program must give a detailed description of the steps required to conduct each trial.

12.0 The Sea Acceptance Trials Program must provide a Record Sheet for each trial which must include check-off lists for readings and observations that should be taken during the trial and space for recording the readings, observations and data that are to be collected. The Record Sheet must be appended to each plan and procedure prior to the commencement of the trial.

13.0 The Sea Acceptance Trials Program must include the following as a minimum:

a. The list of prerequisite mandatory inspection reports required in order to proceed with the Sea Acceptance Trial;

b. The detailed list of supplies and systems required including as applicable:

1) Electrical power supply;

2) Air, fuel, oil and water supplies;

3) Communication systems required; and

4) Alarm & monitoring system communications required.

c. The list of the personnel required for:

1) The readings and data collection; and

2) The vessel’s operations.

d. The list of the mandatory attendance including as applicable:

1) Canada;

2) Class;

3) Regulatory Bodies;

4) Inspection Authority; and

5) Original Equipment Manufacturer.

e. The security and safety requirements onboard;

f. The list of approved test and data sheets to be filled during the trial;

g. The sequential order and type of trials to be conducted on the equipment and their respective performances to be obtained.

14.0 Based on the NLTs Sea Acceptance Trial Program, the Contractor must develop and deliver a Sea Trial schedule. The schedule must provide an estimated duration in days of each of the main activities described in.

Requirements (after conduct of Sea Acceptance Trials):

15.0 Following conduct of the Sea Acceptance Trials any deviations from the last version of the Sea Acceptance Trials Program provided to Canada by the Contractor must be appended to the Sea Acceptance Trials Program in detail with any supporting documentation and / or explanation as required to demonstrate that the integrity of the testing has not been compromised.

16.0 Following conduct of the Sea Acceptance Trials the results of the Sea Acceptance Trials must be appended to the Sea Acceptance Trials Program. The results must be presented on a trial by trial basis, explaining clearly the result and indicating whether the result verifies or proves the specification requirement/reference it pertains to.

17.0 Following conduct of the Sea Acceptance Trials copies of the Record Sheet and any calibration records for each test or trial must be appended to the Sea Acceptance Trials Program.

Deliverables:

18.0 One (1) electronic copy of the Draft Sea Acceptance Trials Program must be provided by the Contractor 15 Working Days prior to the Preliminary Design Review.

19.0 One (1) electronic copy of the Final Sea Acceptance Trials Program must be provided by the Contractor 15 Working Days prior to the Critical Design Review.

20.0 Any changes to the Sea Acceptance Trials Program must be provided not later than 30 Working Days prior to the planned start date of each test or trial.

21.0 One (1) electronic copy of the Sea Acceptance Trials Program and two signed hard copies (one of which contains the original signed trials data sheets) must be provided by the Contractor 15 Working Days prior to the Acceptance Review for each vessel as part of the Acceptance Review Data Package.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-TT-003 Inclining Test Program**	DATA ITEM NUMBER: DID-TT-003
DESCRIPTION/PURPOSE: To define the required content of the program that the Contractor must produce in preparing for, and reporting on, the conduct of the Inclining Experiment.	
RELATED DIDS: DID-E-001 Weights and Centre of Gravity Report DID-E-002 Trim, Stability and Freeboard Report DID-M-002 Master Plan and Schedule	REFERENCES: Canadian Forces Technical Order C-03-001-024/MS-003 Procedures for Conducting Inclining Experiments on Canadian Forces Surface Ships

PREPARATION INSTRUCTIONS:

Format:

1.0 The Inclining Test Program must be in the Contractor's format and delivered as a Microsoft Office Word 2013 document.

2.0 The results of the Inclining Experiment and the Derivation of Lightship must be formatted in accordance with the requirements of Canadian Forces Technical Order C-03-001-024/MS-003 Procedures for Conducting Inclining Experiments on Canadian Forces Surface Ships and delivered as a Microsoft Office Word 2013 document.

Requirements (prior to conduct of the Inclining Experiment):

3.0 The Vessel's Inclining Test Program must include the following as a minimum:

a. The objectives of the tests and the related deliverables subject to the Regulatory Body

approval;

b. The procedure to be followed in conducting the test;

c. How the preparation and conduct of the experiment must be coordinated to ensure the attendance of the DND Technical Authority and the required Regulatory Body.

Requirements (after conduct of the Inclining Experiment):

4.0 Following conduct of the Inclining Experiment the results and the derivation of Lightship must be appended to the Inclining Test Program in accordance to the requirements of Canadian Forces Technical Order C-03-001-024/MS-003 Procedures for Conducting Inclining Experiments on Canadian Forces Surface Ships.

Deliverables:

5.0 One (1) electronic copy of the Inclining Test Program must be provided by the Contractor 15 Working Days prior to the Critical Design Review.

6.0 One (1) electronic copy of the Inclining Test Program must be delivered 15 Working days before the start of Sea Acceptance Trials.

7.0 One (1) electronic copy of the Inclining Test Program and two signed hard copies (one of which contains the original signed trials data sheets) must be provided by the Contractor 15 Working Days prior to the Acceptance Review for each vessel as part of the Acceptance Review Data Package.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-ILS-001 Master Equipment List**	DATA ITEM NUMBER: DID-ILS-001
DESCRIPTION/PURPOSE: To define the required content of the list that the Contractor must produce that will identify to Canada the equipment that has been selected in the design and construction of the Naval Large Tugs and which will subsequently be used as an integral part of their in service support.	
RELATED DIDS: DID-E-001 Weights and Centre of Gravity Report DID-ILS-004 Maintenance Analysis Reports	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 The specific format of the Master Equipment List (MEL) must be developed by the Contractor, agreed to by Canada, and delivered as a Microsoft Office Excel 2013 document.

Requirements:

2.0 The MEL must be structured in accordance with the Work Breakdown Structure used for the Naval Large Tug's Weight and Centre of Gravity Report (DID-E-001) and must identify for each piece of machinery or equipment:

a. Unique ID Number;

b. Equipment Nomenclature, description;

c. Work Breakdown Structure number;

d. Manufacturer name;

e. NCAGE of manufacturer if available;

f. Manufacturers model number;

g. NATO Stock Number (NSN) if available;

h. Capacity and / or rating (if applicable);

i. Quantity;

j. Serial Number(s);

k. Nameplate Data;

l. Manufacturer's Name and Address; and

m. The Regulatory Body Certificates (if applicable).

3.0 The following Original Equipment Manufacturer Warranty information must be provided:

a. Coverage;

b. Terms; and

c. Start and end date.

4.0 The MEL must identify the equipment forming part of the systems listed below:

a. Main propulsion system, including:

1) Engines and associated systems;

2) Shaftline and components; and

3) Gearbox.

b. Electrical power generation and distribution system, including:

1) Service Switchboards;

2) Emergency Switchboard;

3) Distribution Systems; and

4) Electrical Power Conversion Equipment.

c. Auxiliary systems, including:

1) Bilge System;

2) Fuel Oil Handling System;

3) Lube Oil System(s);

4) Hydraulic Power System(s);

5) Seawater Cooling System(s);

6) Heating and Air Conditioning Systems;

7) Firefighting System;

8) Lifesaving and Evacuation Equipment; and

9) Ventilation Systems.

d. Galley Equipment;

e. Fresh, Greywater and Blackwater Systems;

f. Navigation system;

g. Steering system;

h. Machinery control system, including:

1) Propulsion Machinery Control and Monitoring System;

2) Electrical Power Generation Control and Monitoring System;

3) Bridge Controls.

i. Primary communication system;

j. Internal Communication Systems;

k. External Communication Systems including Emergency Communication Systems;

l. Deck Equipment; and

m. Towing Equipment.

Deliverables:

5.0 One (1) electronic copy of the proposed content of the MEL, in terms of systems/equipment to be included, must be delivered 15 Working Days before the Critical Design Review.

6.0 One (1) electronic copy of the MEL must be provided by the Contractor 15 Working Days prior to the Acceptance Review for each vessel as part of the Acceptance Review Data Package.

7.0 One (1) electronic copy of the final updated MEL must be provided on delivery of each vessel.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-ILS-002 Hazardous Material Database**	DATA ITEM NUMBER: DID-ILS-002
DESCRIPTION/PURPOSE: To define the required content of the database that the Contractor must provide that will demonstrate to Canada that the Naval Large Tug complies with the requirements for an Inventory of Hazardous Material.	
RELATED DIDS:	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 The Hazardous Material Database must be provided in the Contractor's format and delivered as a Microsoft Office Excel 2013 document.

2.0 The Contractor must provide a Digital Versatile Disc (DVD) containing current copies of the Material Safety Data Sheets (MSDS) for all material/controlled products used on the vessels. The MSDS must be provided in both official languages.

Requirements:

3.0 The Contractor must duly record any sealed radioactive nuclear substance contained in any detector in the Hazardous Material Database. Firefighting extinguishing compounds, except water, must be identified in the Hazardous Material Database.

4.0 The Hazardous Material Database must contain the following information:

a. Where there are no acceptable alternatives to mercury, the application, location and detailed information on the product where it is used;

b. Where regulated Halocarbons are used, the application, location and detailed information on

the products where they are used;

c. Where radioisotopes are incorporated into or used on the vessel; and

d. Where the antifouling coating used on the underwater hull is regulated by Health Canada under the Pest Management Review Agency, the antifouling coating product name, quantity used, and its registration number.

5.0 The Hazardous Material Database must contain the following statements:

a. A statement of the known hazardous material condition in the vessel;

b. Polychlorinated biphenyl Statement - certification that the vessels do not contain Polychlorinated biphenyls;

c. Asbestos Statement - certification that the vessels do not contain asbestos;

d. Cadmium Statement - certification that the vessels do not contain cadmium; and

e. Ozone Depleting Substances Statement - certification that the vessels do not contain Ozone Depleting Substances.

Deliverables:

6.0 One (1) electronic copy of the Hazardous Material Database must be delivered 15 Working Days before the Critical Design Review.

7.0 One (1) electronic of the Hazardous material Database must be provided by the Contractor 15 Working Days prior to the Acceptance Review of each vessel as part of the Acceptance Review Data Package.

8.0 One (1) electronic copy of the Hazardous Material Database and the MSDS must be provided on delivery of each vessel.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-ILS-003 Technical Data Package**	DATA ITEM NUMBER: DID-ILS-003
DESCRIPTION/PURPOSE: To define the required content of the package of information (technical data, drawings, manuals and other supporting documentation) that the Contractor must provide to support each Naval Large Tug during their operational life cycle.	
RELATED DIDS: DID-E-007 Critical Design Review Data Package DID-ILS-001 Master Equipment List DID-M-012 Design Drawings	REFERENCES:
PREPARATION INSTRUCTIONS: Format: 1.0 The Technical Data Package (TDP) must be delivered as Microsoft Office 2013 documents for each original deliverable (where available) or in Portable Document Format (PDF). 2.0 Drawings must be in accordance with industry standards, and must be produced in accordance with DID-M-012 Design Drawings. 3.0 The following individual publications must be developed in both official languages: a. Trim, Stability and Freeboard Report (Trim and Stability Book); b. Inclining Report; c. Lightship Check;	

d. Propulsion System Operation and Maintenance Manual including text, figures and illustrations;

e. Electrical System Operation and Maintenance Manual including text, figures and illustrations;

f. Auxiliary System Operation and Maintenance Manual including text, figures and illustrations; and

g. Shipboard Plans for Fire Protection Appliances, Life-Saving Appliances and Means of Escape.

4.0 Where available, technical manuals provided by the Original Equipment Manufacturer (OEM) for commercial-off the-shelf equipment, machinery and appliances installed on the Naval Large Tugs (NLTs) must be indexed in book form, including any text, figures and illustrations. The technical manuals must be provided in both official languages if available from the OEM.

5.0 Units used in all main documentation deliverables (manuals, systems drawings, equipment drawings, etc.) must use ASHRAE standard S-I Units. Units must be consistent throughout all documents (e.g., units for airflow must be the same in the manual, the ship system drawing and the fan equipment drawing).

Requirements – General:

6.0 The TDP must consist of as-fitted drawings, Operating Manual, Equipment Maintenance Manual and OEM technical manuals.

Requirements – Drawings:

7.0 The TDP drawings must be those listed in DID-E-007 Critical Design Review Data Package but updated to reflect the actual configuration of each vessel at acceptance. The as-fitted drawings must be sufficiently detailed so as to allow Department of National Defence (DND) to operate, maintain, repair, overhaul, refit, support, and control the configuration of the NLT and its systems and equipment throughout the NLT's In-Service life.

8.0 An index must be provided for the As-Fitted drawings, including the drawing title, drawing number and designator indicating the Work Breakdown Structure (WBS) group. The index must be cross referenced by drawing title, WBS group, and drawing number.

9.0 If Classification Society or Regulatory Body approvals are required on a drawing, they must be stamped on the drawing.

10.0 Each As-Fitted drawing in the As-Fitted Drawing List must be created to represent the entire class of vessels (e.g. one general arrangement drawing representing all vessels within that class). Any authorized exceptions to, or departures from, the class Technical Baseline will be annotated as an exception to the baseline. In this way, a baseline for the class will be established and any changes pertaining to individual vessels will be identified.

Requirements – Operating Manual:

11.0 The Operating Manual must describe the vessel, the general layout of each deck and the vessel's design and performance characteristics. Subsequent chapters must include, as a minimum, the following systems:

a. General Information and ship layout (ship level);

b. Main Propulsion System;

c. Key safety features;

d. Lifesaving equipment;

e. Stability (based on the trim and stability booklet);

f. Environmental protection features;

g. Electrical Generation and Distribution System;

h. Fuel Storage and Transfer System;

i. Compressed Air System;

j. Steering System;

k. Propulsion and Machinery control System;

l. Fire Fighting System;

m. Bilge Suction System;

n. Navigation Systems;

o. Bridge Control;

p. Internal Communications System;

q. External Communication Systems including Emergency Communication Systems;

r. Heating, Ventilation & Air Conditioning System;

s. Deck Machinery;

t. Hull Structure and Fittings;

u. Fresh Water System;

v. Science equipment including science electronics;

w. Auxiliary equipment and control; and

x. Fitted deck equipment (including anchor windlass, cranes, davits).

12.0 The Operating Manual must describe each of the systems in 11.0, above as follows:

a. A detailed description of the system and its component elements, with illustrations as required.

b. System description must include a narrative description, system block diagram, equipment breakdown structure, and supporting data (for example, line drawings, photographs, data tables, etc.) and include theory of operation for the system;

c. System operating procedures, including both normal operations and emergency procedures. System operation must include initial adjustments, pre-start checks, starting procedures, normal operating procedures, special and emergency procedures, shut down procedures, lay-up instructions, as applicable;

d. Illustrated schematics of each system identifying all equipment; and

e. A summary of maintenance actions to be performed by the operating crew including ship system layup (Hot and Cold), winterization and season start up preventative maintenance instructions. Troubleshooting data including possible malfunctions, causes, effects and solutions.

Requirements – Equipment Maintenance Manual:

13.0 The Equipment Maintenance Manual must provide a summary of all preventative maintenance instructions and maintenance actions to be performed by the crew, as well as first and second line maintenance, including ship system lay-up (hot and cold), with particular emphasis on winterization and season start up, Troubleshooting data including possible malfunctions, causes, effects and solutions.

14.0 The Equipment Maintenance Manual must provide high level details of third line maintenance, sufficient to allow for sub-contracting of those activities to qualified contractor.

15.0 The Equipment Maintenance Manual must provide overhaul instructions that include recommended routine and planned maintenance schedule, special instructions for disassembly and assembly with illustrations, clearances and alignments to be checked, troubleshooting procedures, use of special tools and test equipment required for servicing.

16.0 The Equipment Maintenance Manual must provide scheduling information such as: schedule type (i.e.

calendar, hours, and cycles); task frequency or interval; time required; maintenance window (i.e. related tasks, resource consolidation) and seasonal considerations.

17.0 The Equipment Maintenance Manual must include instructions or steps required to accomplish the maintenance task including reference to applicable technical data (i.e. assembly instructions, drawings) identified by name and OEM reference number, the estimated required level of effort in hours. Details such as equipment removal routes and lifting points must also be provided where applicable. In preparing instructions:

a. Identify the skill type, knowledge level and quantity of technician to perform the maintenance task;

b. Identify all parts and consumables required to perform the maintenance task;

c. Identify special tool or test equipment required along with all task specific instructions if applicable;

d. Identify any environmental issues related to the maintenance task;

e. Identify diagnostic data that includes symptoms, possible causes, fault isolation techniques at the system level (equipment level diagnostic data must be provided in OEM manuals);

f. Identify basic operating characteristics (temperatures, pressures, air flow rate, etc.); and

g. Safety hazards and corresponding warnings.

18.0 The Equipment Maintenance Manual must include instruction books and other data for all major systems (complete propulsion plant including gearbox, electrical plant including battery charging system, control system, and instrumentation), machinery and equipment (winches, pumps, heaters, fans, cooking appliances, navigating appliances, all the radio equipment, etc.) and must contain the following information:

a. Complete description of the unit;

b. Sufficient data, including installation criteria and drawings, to permit installation, adjustment, and testing;

c. A summary of all preventive maintenance instructions and maintenance actions to be performed at first and second line;

d. Maintenance and overhaul instructions that include recommended routine and planned maintenance schedule, special instructions for disassembly and assembly with illustrations, clearances and alignments to be checked, trouble shooting procedures, use of special tools and test equipment required for servicing;

e. Scheduling information such as: schedule type (i.e. calendar, hours, cycles); task frequency or interval; time required; maintenance window (i.e. related tasks, resource consolidation) and seasonal considerations;

f. Instructions or steps required to accomplish the Maintenance Task including reference to applicable technical data (i.e. troubleshooting procedures, assembly instructions, drawings) identified by name and OEM reference number, the estimated required level of effort in hours. Details such as equipment removal routes and lifting points must also be provided where applicable;

g. Safety issues related to maintenance tasks must be identified such as lock out and/or tag out, entry to confined spaces and hazardous material;

h. Identify all parts and consumables required to perform the maintenance task. The location (onboard stores or shore based spares) of these spares is to be identified;

i. Descriptions of the conditions under which the maintenance task must be performed, such as: identification of the Level and Line, whether dry-docking is required and all specific operating conditions of the equipment;

j. Special Test and Tool Equipment required must be identified along with all task specific instructions if applicable;

k. Environmental issues related to maintenance task must be identified;

l. Diagnostic Data that includes symptoms, possible causes, fault isolation techniques at the system level (equipment level diagnostic data must be provided in OEM manuals)

m. Basic operating characteristics (temperature, pressure, air flow rate, etc.); and

n. A summary of maintenance actions to be performed by the operating crew including ship system layup (Hot and Cold), winterization and season start up preventative maintenance instructions.

Requirements – Type Approval and Certificates:

19.0 The TDP must include any certificate of approval by the appropriate authority for all the equipment, machinery and appliances installed on the vessels.

20.0 The TDP must include certificates for the lights, shapes, and sound signals required by the Collision Regulations.

21.0 The Contractor must provide a fire control plan and other safety drawings in both official languages permanently exhibited for ship staff.

Deliverables

22.0 One (1) electronic copy of the manuals included in the TDP must be provided 50 Working Days prior to delivery for each vessel

23.0 One (1) electronic copy of the TDP must be provided 15 Working Days prior to Acceptance Review for each vessel as part of the Acceptance Review Data Package.

24.0 The TDP must be provided on DVD.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-ILS-004 Maintenance Analysis Reports**	DATA ITEM NUMBER: DID-ILS-004
DESCRIPTION/PURPOSE: To define the content of the reports that the Contractor must produce to identify critical systems and equipment, establish maintenance cycles, list maintenance activities and related support requirements for the Naval Large Tug.	
RELATED DIDS: DID-ILS-005 Recommended Spare Parts List	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 The Maintenance Analysis Reports must be presented in the Contractor's format and delivered as a Microsoft Office Word 2013 document.

Requirements:

2.0 A Maintenance Analysis Report must be generated by the Contractor for all systems, sub-systems, equipment or components identified in the Master Equipment List that are necessary for the safe, efficient and legal operation of the vessel. This must include any item that:

a. Can impact vessel operation, safety or environmental performance adversely;

b. Is likely to burden on-board maintenance resources in order to repair; and

c. Any item that is likely to require a significant proactive maintenance program to keep it functional.

3.0 The Maintenance Analysis Reports must be generated using the Reliability Centered Maintenance methodology using a "top down" and functional approach developed to support the NLT operation

over a 60-month refit-to-refit maintenance cycle.

4.0 Reliability and maintenance data such as hours between oil and filter changes, and hours between overhaul, and mean time between inspections must be provided.

5.0 Where a system or sub-system has an existing Original Equipment Manufacturer (OEM) maintenance plan and the system or sub-system will be operated in accordance with the OEM specifications, the OEM maintenance plan must be used in place of a separate analysis for the purposes of this deliverable. Where applicable, OEM MTBF values must be utilized in the analysis.

6.0 The Maintenance Analysis Report must:

a. Identify the system, sub-system, equipment item or component under analysis;

b. Include a summary description of the concept of maintenance determined through analysis for the system, sub-system, equipment item or component under analysis. The summary for each hierarchical level must reflect the analyses of each subordinate level. Each summary must confirm or suggest needed modifications to the notional maintenance cycle and / or the concept of support;

c. Include supporting calculations as applicable and include line by line (failure mode by failure mode) a preliminary list of critical Integrated Logistic Support elements that must be required to execute the strategies identified including:

1) Spare parts, materials, consumables and other items;

2) New skills or knowledge that must require training for DND personnel;

3) Tools, test equipment and support equipment not otherwise identified and included either in the design or shore based support facilities; and

4) Technical documentation, drawings, schematics, instrument loop diagrams, etc. that may be required.

d. Include a Failure Mode and Effects Analysis (FMEA) and Decision Logic used to arrive at maintenance and other failure management strategies resultant from the analysis. This must including proactive and corrective actions, task frequencies and who should carry out those actions (e.g. ship’s crew or shore based personnel);

e. The FMEA must be conducted in accordance with International Code of Safety for High-Speed Craft, 2000 Annex 4 Procedures for Failure Mode and Effects Analysis, and to a standard to the satisfaction of a Classification Society for the following ship systems:

1) Main propulsion system;

2) Ship service electrical power generation and distribution system;

3) Navigation and communication systems;

4) Machinery control system;

5) Damage control system; and

6) Deck winch and towing systems.

f. The FMEA must demonstrate that the vessel's systems are not rendered inoperable due to a single critical failure (single point of failure must be compensated for by redundancy or alternate operating procedure that will prevent the loss of the system in the event of failure).

g. The FMEA must identify tests and trials necessary to support the conclusions on the analysis.

Deliverables:

7.0 One (1) electronic copy of the Maintenance Analysis Reports must be provided by the Contractor 15 Working Days prior to the Critical Design Review.

8.0 One (1) electronic copy of the Maintenance Analysis Reports must be provided by the Contractor 15 Working Days prior to the Acceptance Review for each vessel as part of the Acceptance Review Data Package.

9.0 One (1) electronic copy of the Maintenance Plan must be provided on delivery of each vessel.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-ILS-005 Recommended Spare Parts List**	DATA ITEM NUMBER: DID-ILS-005
DESCRIPTION/PURPOSE: To define the contents of a list that the Contractor must provide that will establish the recommended spare parts that are recommended for purchase with each Naval Large Tug to support its ongoing regular maintenance.	
RELATED DIDS: DID-ILS-004 Maintenance Analysis Reports	REFERENCES: TCMS Classification Society Rules

PREPARATION INSTRUCTIONS:

Format:

1.0 The specific format of the Recommended Spare Parts List (RSPL) must be developed by the Contractor in tabular format as agreed to by Canada, and delivered as a Microsoft Office Excel 2013 document.

Requirements:

2.0 The Contractor must compile a list of spare parts, including on-board spares, shore based Operational Spares, long lead spares, special tools and test equipment based on the Maintenance Analysis Report, the requirements of the Regulatory Body and Original Equipment Manufacturers' (OEM) recommendations.

3.0 The RSPL must provide a complete list of all spares, both repairable and consumable, recommended by the Contractor to be procured at the time of equipment purchase. The RSPL must describe items down to individual Line Replaceable Units and no further.

4.0 All on board spares required by the Regulatory Body, Class, and/or the OEM, complete with a

rationalized quantity of shore based Operational Spares sufficient to support first, second and third line maintenance for a 60 month operation cycle for all systems and equipment including all special tools and test equipment must be listed in the RSPL.

5.0 The RSPL must indicate which Operational Spares are required for the first two (2) years of operation and will be included with delivery of the NLTs.

6.0 The RSPL must indicate which spares, required by TCMS, Class and/or OEM, are considered long lead spares.

7.0 The Contractor must provide an onboard storage layout plan for spare and repair parts, and all other materiel recommended to be stored on-board. The plan must outline all special packaging and storage requirements, conditions and maintenance that may apply to spares and repair parts stored on-board and shore based.

8.0 The RSPL must indicate spares required for a 60 day cycle sufficient to support preventative maintenance by first line personnel.

9.0 The RSPL must identify:

a. Unique spare parts identification number;

b. Item Name;

c. Manufacturer’s Name;

d. NCAGE of manufacturer if available;

e. Manufacturer or Supplier Contact Information;

f. Manufacturer’s Part Number;

g. NATO Stock Number (NSN) (if applicable);

h. Manufacturer’s Address;

i. Quantity Recommended aboard (each vessel);

j. Quantity Recommended ashore;

k. Production lead time (if applicable);

l. Procurement lead time (if applicable);

m. Shelf life;

n. Delivered packaging dimensions (L x W x D);

o. Delivered packaging weight;

p. Maintenance level of the part (i.e., first line, second line, etc.);

q. Associated special tools, test and support equipment (see 8.0);

r. Unit of Issue; and

s. Unit Price.

10.0 A complete list of all tools, test and support equipment, interconnect devices, handling equipment, maintenance stands, and other unique items that are required to conduct maintenance for each item on the list must also be provided and include the following:

a. Unique tool/equipment identification number;

b. Tool/equipment name;

c. Tool/equipment description;

d. Manufacturer's Part Number;

e. NATO Stock Number (NSN) (if applicable);

f. Maintenance action associated with the tool/equipment;

g. Applicable system, subsystem and equipment; and

h. Unit price.

Deliverables:

11.0 One (1) electronic copy of the RSPL must be provided by the Contractor 15 Working Days prior to the Critical Design Review.

12.0 One (1) electronic copy of the RSPL must be provided 15 Working Days prior to Acceptance Review for each vessel as part of the Acceptance Review Data Package.

13.0 One (1) electronic copy of the RSPL must be provided on delivery of each vessel.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-ILS-006 Captain's Ship Book**	DATA ITEM NUMBER: DID-ILS-006
DESCRIPTION/PURPOSE: To define the contents of a book that the Contractor must provide that contains all legal documents required for each Naval Large Tug's operation.	
RELATED DIDS: DID-ILS-002 Hazardous Materials Database	REFERENCES:

PREPARATION INSTRUCTIONS:

Format:

1.0 The Captain's Ship Book must contain copies of, or the original, certificates for all the equipment, machinery and appliances installed on the vessels bound and indexed by the Contractor.

Requirements:

2.0 The Captain's Ship Book must contain all legal documents required for the vessel's operation and must include the following:

a. Table of contents that lists the certificates and reports held therein;

b. Acceptance Certificate;

c. Vessel's principal dimensions and operational characteristics;

d. Total number of officers and crew accommodated;

e. Tonnage Certificates;

f. Classification Society Ship Inspection Certificate;

g. Report of Inspection;

h. Lists of navigation lights, not under command lights, emergency navigation, lights and stowage;

i. The Statement of Metacentric Height;

j. Docking Plan (docking report, propellers, U/W fittings);

k. Fuel consumption with speed particulars;

l. Anchoring system certificates;

m. Lifting appliances test certificates;

n. Statement of structural integrity, if any;

o. Full power trials report performance data;

p. Machinery Certificates (Engine emission, waste water treatment system, oily water separator, etc.);

q. Radiation and other safety related hazards;

r. Statement of anti-fouling paint used;

s. Antifouling Coating certificate;

t. Radio facilities (list) and Radio certificate;

u. Radioactive prescribed substance licenses; and

v. Any other certificates as deemed appropriate.

Deliverables:

3.0 One (1) electronic copy of the Captain's Ship's Book must be provided 15 Working Days prior to the Acceptance Review for each vessel as part of the Acceptance Review Data Package.

4.0 One hard and on electronic copy of the Captain's Ship's Book must be provided on delivery of each vessel.

DATA ITEM DESCRIPTION (DID)	
TITLE: **DID-T-001 Training Plan**	DATA ITEM NUMBER: DID-T-001
DESCRIPTION/PURPOSE: To define the required content of the plan that the Contractor must develop for the content and conduct of the Crew Familiarization and Operator and Maintenance Personnel Training.	
RELATED DIDS: DID-ILS-001 Master Equipment List DID-ILS-002 Hazardous Material Database DID-ILS-003 Technical Data Package DID-ILS-004 Maintenance Analysis Reports DID-ILS-005 Recommended Spare Parts List	REFERENCES:
PREPARATION INSTRUCTIONS: Format: 1.0 The Training Plan must be in the Contractor's format and delivered as a Microsoft Office 2013 documents as appropriate for the content. 2.0 All Contractor supplied training and the training material must be provided in English and French. Requirements: 3.0 Reference libraries of all hard and soft copies of all training courseware (lessons, presentation materials, manuals, etc.) must be provided to Canada. 4.0 The Training Plan must meet both the system operation and system maintenance requirements to a level suitable for initial cadre training of operators, including on board maintenance performed by the	

ship's crew and shore based maintenance that may require the presence of a Field Service Representative.

5.0 The Contractor must prepare and produce a Training Plan for the courses in accordance with best current industrial practices and details of this Statement of Work.

6.0 The Training Plan must define and describe in appropriate detail all aspects of how the Contractor will effectively deliver training.

7.0 The Training Plan must be developed with input from Canada in terms of scheduling and preferred topics and be consistent with the Technical Manuals. Canada will identify personnel for this activity.

8.0 The Training Plan must, at a minimum, include:

a. Training topics;

b. Training location(s) for each training topic;

c. Training duration for each training topic;

d. Intended audience for each specific training topic;

e. Lesson plan(s) for each training topic;

f. Identification of the instructor(s) for each training topic; and

g. A combined basic operation, first line maintenance and troubleshooting manual. The combined basic operation, first line maintenance and troubleshooting manual must include, as a minimum:

1) Applicable sections of approved technical manuals;

2) Selected ship construction/equipment drawings, where relevant;

3) A copy of presentations, narrative descriptions, diagrams, sketches, charts, graphs, pictures, and other material utilized to support the information presented in the course;

4) Start-up, operation, and shutdown procedures for equipment discussed; and

5) Basic first line maintenance, operation and troubleshooting for primary equipment and systems.

9.0 The Training Plan must provide an agenda and proposed schedule for the proposed training.

10.0 Familiarization and equipment training must comprise practical exercises supplemented with

classroom seminars;

11.0 The Training Plan must include, as a minimum, the following specific items, including operations, constraints and recommended practices as applicable:

a. Overview of the vessel and its systems including key design features and key safety features;

b. Propulsion system;

c. Machinery control system including operations, constraints and recommended practices;

d. Electrical generating system and distribution system including emergency operations;

e. Auxiliary equipment and control;

f. Bridge control and navigation workstation;

g. Steering system;

h. Navigation electronics;

i. Communication electronics (internal and external);

j. Upper deck equipment and winches (including anchor windlass, towing winches, cranes, davits, etc.);

k. Towing operations;

l. Cold move operations;

m. Stability including loading conditions and tank arrangement; ;

n. Lifesaving equipment and damage control systems (on board);

o. Fuelling and ballasting systems and equipment;

p. Harbour firefighting (fire-fighting systems, equipment and consoles);

q. Environmental protection features; and

r. Crane / rescue boat launch.

Deliverables:

12.0 One (1) electronic copy of the Training Plan must be provided to Canada 30 Working Days before

the first training session.

ANNEX A

SYSTEM REQUIREMENTS DOCUMENT

FOR THE

NAVAL LARGE TUG PROJECT

Table of Contents

1. List of Referenced Documents

ASME A13.1 Scheme for the Identification of Piping Systems
ASTM A131 Standard Specification for Structural Steel for Ships
ASTM F992 Standard Specification for Valve Label Plates
Canada Shipping Act 2001
Canada Labour Code- R.S.C., 1985, c. L-2
Canadian Collision Regulations- C.R.C., c. 1416
CFTO C-03-001-024/MS-002 Stability and Buoyancy Requirements for Surface Ships
CFTO D-03-003-024/SG-001 Work Breakdown Structure for Canadian Forces Ships and Submarines
CFTO D-03-003-023/SF-001 General Hull Standard
CFTO D-23-003-005/SF-002 Specification for Maintenance Painting of HMC Ships
Classification Society Rules
CSA Safe Working Practices Regulations
DND Drawing G-R-9-H02-0020051-01
FED-STD-595C Standard Paint Colours
Health Canada Guidelines for Canadian Drinking Water Quality Summary Table
Hull Construction Regulations- C.R.C., c. 1431
IACS Unified Requirement No. 24 Intact Stability
IEC Publication 60076 Power transformers
IEC Publication 60092 Electrical Installations in Ships
IEC Publication 60146 Semiconductor converters
IEC Publication 62040 Uninterruptible power systems
IEEE 45 Recommended Practice for Electric Installations on Shipboard
IMO International Convention for the Safety of Life at Sea (SOLAS), 1974
IMO International Convention for the Prevention of Pollution from Ships (MARPOL)
IMO International Regulations for Preventing Collisions at Sea (COLREGS)
IMO Resolution A.468 (Xii) Code on Noise Levels on Board Ships
IMO Resolution A.534 (13) Code on Safety for Special Purpose Ships
IMO Resolution A.817 (19) Performance standards for electronic chart display and information systems
IMO Resolution A.829 (19) Guidelines for the evaluation of the adequacy of type C tank vent systems
IMO Resolution MSC 158(78) Amendments to the Technical Provisions for Means of Access for Inspections
IMO Resolution MSC 74 (69) Adoption of New and Amended Performance Standards
ISO 5620 Shipbuilding and marine structures -- Filling connection for drinking water tanks
ISO 8573-1 Compressed air
ISO 8861 Engine-room ventilation in diesel-engined ships
ISO 8862 Air-conditioning and ventilation of machinery control-rooms on board ships
MARCORD NA-02 Maple Leaf Emblem Wearing By HMCS Ships and Auxiliary Vessels
Pest Control Products Act- S.C. 2002, c. 28

SAE J1942 Hose and Hose Assemblies for Marine Applications
SOR/2010-120 Maritime Occupational Health and Safety Regulations
SOR/90-264 Marine Machinery Regulations
SOR/2005-134 Navigation Safety Regulations
SOR/2012-69 Vessel Pollution and Dangerous Chemicals Regulations
TC Towboat Crew Accommodation Regulations
TP 127E Ship Safety Electrical Standards
TP 1861 Standards for Navigation Lights, Shapes, Sound Signal Appliances and Radar Reflectors
TP 3668E Standards for Navigating Appliances and Equipment, 1983
TP 3685 Standards Respecting Noise Control and Hearing Protection in Canadian Towboats Over 15 Tons, Gross Tonnage
TP 7301, STAB 1 to 8, Stability, Subdivision and Load Line Standards
TP 11469 Guide to Structural Fire Protection
TP 12401 Response Organizations Standards (1995)
TP 13585 Marine Compliance and Enforcement Manual
TP 14475E - Canadian Life Saving Appliance Standard

2. Acronyms and Abbreviations

AC	Alternative Current
AFFF	Aqueous Film Forming Foam
AOPS	Arctic Offshore Patrol Ship
API	American Petroleum Institute
ARPA	Automatic Radar Plotting Aids
ASTM	American Standards for Testing Materials
BCC	Bridge Control Console
CFB	Canadian Forces Base
CFTO	Canadian Forces Technical Order
COLREGS	Convention on the International Regulations for Preventing Collisions at Sea
CSA	Canadian Standards Association
CSC	Canadian Surface Combatant
DC	Direct Current
DGPS	Differential Global Positioning System
DND	Department of National Defence
DRDC	Defence Research and Development Canada
DWAN	Defence Wide Area Network
ECDIS	Electronic Chart Display & Information System
FCC	Firefighting Control Console
FFV1	Firefighting Vessel Class 1
GHz	Gigahertz
GMDSS	Global Maritime Distress and Safety System
GPS	Global Positioning System
HD	High Definition
HF	High Frequency
HMCS	Her Majesty’s Canadian Ship
HVAV	Heating Ventilation and Air Conditioning
Hz	Hertz
IACS	International Association of Classification Societies
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IMO	International Maritime Organization
IPMS	Integrated Platform Management System
ISO	International Organization for Standardization
JSS	Joint Support Ship
LLL	low lighting location
MARPOL	International Convention for the Prevention of Pollution from Ships
MCC	Machinery Control Console
MCDV	Maritime Coastal Defence Vessels
MCR	Maximum continuous rating
MF	Medium Frequency

NEMA	National Electrical Manufacturers Association
NLT	Naval Large Tug
NM	Nautical Mile
OEM	Original Equipment Manufacturer
PPE	Personal Protective Equipment
RCN	Royal Canadian Navy
SAE	Society of Automotive engineers
SART	Search and Rescue Transponder
SAT	Satellite
SOLAS	IMO International Convention for the Safety of Life at Sea
SRD	System Requirements Document
TBT	Tributyltin
TC	Transport Canada
TCMS	Transport Canada Marine Safety
TV	Television
ULC	Underwriter’s Laboratories
UPS	Uninterruptible Power Supplies
V	Volt
VHF	Very High Frequency
WBS	Work Breakdown Structure

3. Definitions

Within Table 5 and contained in the column titled “Parent and NLT Specific” are the following identifiers:

p: Indicates those technical, operational, system and performance requirements which must be present in the selected Proven Parent In-Service Vessel.

NLT: Indicates those technical, operational, system and performance requirements which may be present in the Proven Parent In-Service Vessel but must be incorporated into the technical baseline design and be present in the NLT when delivered.

4. System Requirements

ID		Parent and NLT specific
NLTP -1	**1 GROUP 0 - GENERAL GUIDANCE & ADMINISTRATION**	
NLTP - 12	**1.1 000 - GENERAL GUIDANCE & ADMINISTRATION**	
NLTP - 176	**1.1.1 000.1 General Instructions**	
NLTP - 390	The intent of this System Requirements Document (SRD) is to define the requirements for the design, construction and outfit of the Naval Large Tugs (NLTs) for use by the Queen's Harbour Master in HMC Dockyards Halifax and Esquimalt.	p
NLTP - 391	Within this document, the words "must", "will" or "shall" are to be considered synonymous with essential. The stipulation of an essential criterion presumes that it is "achievable at reasonable cost".	p
NLTP - 392	For the purpose of this SRD, an Essential Requirement is a baseline against which any alternative proposal is to be measured before it is considered for selection. The Crown will exercise the right to assess the degree to which the proposed system or vessel design meets the overall operational requirement.	p
NLTP - 393	In the event of any conflict between the documents referenced in the SRD and the SRD itself the SRD text must take preference, except for Classification Society rules and Transport Canada Regulations where the SRD requirement is below the regulation, the regulation takes preference.	p
NLTP - 394	This SRD is formatted in accordance with the Work Breakdown Structure (WBS) for Canadian Forces Ships and Submarines (CFTO D-03-003-024/SG-001). SWBS Group 0 provides general guidance on the required performance of the vessel, its overall configuration and the characteristics of its various systems. SWBS Groups 1 though 7 provides details, on an element by element basis, of specific additional requirements for each system.	p
NLTP - 177	**1.1.2 000.2 General Naval Large Tug Description**	
NLTP - 396	The NLT's are to be of a common, Classification Society approved, proven parent design.	p

NLTP - 397	The NLT's are to be designed to provide harbour berthing operations, harbour fire protection, coastal towing, and various naval fleet support duties.	p
NLTP - 13	**1.2 040 - SHIP SYSTEM MANAGEMENT**	
NLTP - 59	**1.2.1 041 Project Management**	
NLTP - 179	**1.2.1.1 041.2 Proven Parent**	
NLTP - 402	The NLT shall be developed from a Classification Society approved proven parent design currently in satisfactory operation for a minimum of 1,000 cumulative operating hours.	p
NLTP - 403	The proven parent design shall be operating successfully, or shall have operated successfully, in a coastal maritime environment.	p
NLTP - 2191	The proven parent must have been designed, built and entered into service within the last 10 years.	p
NLTP - 404	The NLT must meet the requirements identified in this System Requirements Document (SRD).	p
NLTP - 405	The hydrodynamic and maneuvering characteristics of the proven parent design must be capable of being demonstrated by known and documented sea trials.	p
NLTP - 2292	For all equipment fitted on the first of class tug, the same manufacturer and model shall be fitted for the entire class of NLT.	NLT
NLTP - 60	**1.2.2 042 General Administrative Requirements**	
NLTP - 181	**1.2.2.1 042.1 Applicability Dates**	
NLTP - 414	Unless otherwise stated in this document, standards and Regulatory Body Rules referenced herein are to be taken as those identified as current upon Contract Award.	NLT
NLTP - 415	Unless otherwise stated in this document, legislation, regulations or international guidelines referenced herein are to be taken as those identified as expected to be in force upon the projected date of "cutting steel" of the first of class vessel of the NLT.	NLT
NLTP - 182	**1.2.2.2 042.2 Regulatory Body Rules and Regulations**	
NLTP- 2293	The NLT shall be classed as: American Bureau of Shipping “Maltese Cross” A1 Towing Vessel (FFV 1), AMS, BP (XX), QR or the equivalent notations from another Classification Society recognized under	p

	Transport Canada's Delegated Statutory Inspection Program.	
NLTP - 416	The NLT shall have American Bureau of Shipping ACCU or the equivalent notation from another Classification Society recognized under Transport Canada's Delegated Statutory Inspection Program.	NLT
NLTP - 417	The NLT shall be designed in accordance with the Classification Society requirements and built under supervision of the Classification Society which shall be a member of: - The International Association of Classification Societies (IACS)," and - The Classification Society shall be recognized in accordance with TP 13585 Marine Compliance and Enforcement Manual, i.e. hold a valid Authorization Agreement with Transport Canada and be recognized by the Minister to perform inspection and certification services on their behalf.	NLT
NLTP - 418	It is not intended to enroll the NLT in the Delegated Statutory Inspection Programme. However, the process of TP 13585 shall be utilized and Classification Society in place of Transport Canada Marine Safety shall perform the inspection and certification required by Statute, Regulation or Convention in accordance with the process as outlined in TP 13585 Delegated Statutory Inspection Programme.	NLT
NLTP - 419	Accommodation and work spaces shall comply with the Canada Labour Code, Maritime Occupational Health and Safety Regulations and TC Towboat Crew Accommodation Regulations.	NLT
NLTP - 420	The NLTs shall meet the requirements of MARPOL.	NLT
NLTP - 2203	The NLT shall be designed for operation within the limit of Canada Shipping Act, Near Coastal Voyage Class 2.	NLT
NLTP - 421	The NLT shall: - be registered in Canada in accordance with the provisions set forth in Part 2 of the Canada Shipping Act 2001 (CSA 2001). - meet Transport Canada standards and the Classification Society certification requirements; - satisfy all existing (at time of contract award) Canadian statutory regulations and requirements that pertain to shipping; and - meet Canadian environmental regulations in force at time of contract award.	NLT

NLTP - 183	**1.2.2.3 042.3 Firefighting**	
NLTP - 422	The NLT shall be fitted with the requisite equipment to conform to Firefighting Vessel 1 (FFV 1) or equivalent notation of a Regulatory Body.	p
NLTP - 185	**1.2.2.5 042.5 Noise and Vibration**	
NLTP - 341	**1.2.2.5.1 042.5.1 Noise**	
NLTP - 424	The airborne noise in any normally manned NLT compartments, accommodation, and at manned deck stations with normal propulsion, auxiliary and with all mission related equipment in the spaces running simultaneously at the rated operating level, and the vessel sailing at full speed ahead without requiring personnel to use additional Personal Protective Equipment (PPE) shall meet the following requirements: - Maritime Occupational Health and Safety Regulations; - TP 3685 Standards Respecting Noise Control and Hearing Protection in Canadian Towboats Over 15 Tons, Gross Tonnage; and - IMO Resolution MSC 468 (Xii) Code on Noise Levels on Board Ships.	NLT
NLTP - 186	**1.2.2.6 042.6 Safety**	
NLTP - 426	The NLT shall: - comply with Transport Canada, SOLAS, and the Classification Society ship/vessel safety as well as the Canada Labour Code and TC Towboat Crew Accommodation Regulations; and - comply with TC policy on ionizing and non-ionizing radiation and material hazards. - SOR/2010-120, Canada Maritime Occupational Health and Safety Regulations. - R.S.C., 1985, c. L-2, Canada Labour Code Part II, Occupational Health and Safety.	NLT
NLTP - 188	**1.2.2.8 042.8 Exhaust Emissions**	
NLTP - 428	The diesel engine exhaust emissions using commercial marine diesel shall comply with the requirements of MARPOL, Annex VI Regulations for the Prevention of	p

	Air Pollution from Ships and NOX/SOX Technical Code.	
NLTP - 189	**1.2.2.9 042.9 Electrical Installations**	
NLTP - 429	Electrical systems and equipment installed on the NLTs shall be designed and installed in accordance with the latest versions of the following; - TP127 Ship Safety Electrical Standards; - The standards of a Classification Society; - TP1861 Standards for Navigation Lights, Shapes, Sound Signals Appliances and Radar Reflectors; and - IEC Publication 60092 “Electrical Installations in Ships”.	NLT
NLTP - 431	Electrical appliances shall comply with the standards of the Canadian Standard Association for equipment manufactured in Canada or other national/international standard equivalent to the Canadian Standard Association standard for equipment manufactured outside Canada.	NLT
NLTP - 190	**1.2.2.10 042.10 Radio Communication and Navigation**	
NLTP - 432	The radio communications equipment shall be located and installed in accordance with the most recent version of Ship Station (Radio) Technical Regulations and Ship Station (Radio) Regulations with the necessary source of electrical energy to the satisfaction of a radio inspector.	NLT
NLTP - 1970	The radio communications equipment shall comply with requirement of SOLAS, Chapter IV, Radio communications.	NLT
NLTP - 1971	Source of Energy shall be available at all times, while the NLT is at sea, a supply of electrical energy sufficient to operate the radio installations and to charge any batteries used as part of a reserve source or sources of energy for the radio installations.	NLT
NLTP - 1972	A reserve source or sources of energy shall be provided on every NLT, to supply radio installations, for the purpose of conducting distress and safety radio communications, in the event of failure of the NLT’s main and emergency sources of electrical power.	NLT
NLTP - 433	Navigation equipment, communication equipment and collision avoidance signals shall be fitted to meet the requirements of the following regulations; Transport Canada Navigation Safety Regulations, Transport Canada Collision Regulations, and Standards for	NLT

<table>
<tr><td></td><td>Navigating Appliances and Equipment, 1983, TP 3668E.</td><td></td></tr>
<tr><td>NLTP - 14</td><td>1.3 050 - SHIP SYSTEM PERFORMANCE</td><td></td></tr>
<tr><td>NLTP - 61</td><td>1.3.1 051 Ship System Performance Concepts</td><td></td></tr>
<tr><td>NLTP - 437</td><td>The Current Canadian Fleet that the NLT will be required to support consists of the HALIFAX Class Frigates (5000 tonnes Displacement), VICTORIA Class Submarines (2,455 tonnes Displacement) and KINGSTON Class MCDVs (910 tonnes Displacement).
The future fleet will consist of these Classes of vessel with the addition of the Arctic Offshore Patrol Ships (AOPS), the Canadian Surface Combatant (CSC), and the Joint Support Ship (JSS).</td><td>p</td></tr>
<tr><td>NLTP - 192</td><td>1.3.1.2 051.2 Method of Operation</td><td></td></tr>
<tr><td>NLTP - 439</td><td>The NLT and its systems shall be designed to operate without degradation, or loss of watertight integrity of the hull envelope, or injury to embarked personnel, under the following environmental conditions:
- Air Temperature Max 35ºC to Min -25ºC
- Relative Humidity Max 100% to Min 0%
- Sea Temperature Max 29ºC to Min -2ºC
- Sea Water Salinity Max 39 PPT to Min 0 PPT
- Sea State 5
- Wind Speed 37.5 knots with 60 knot gusts</td><td>p</td></tr>
<tr><td>NLTP - 440</td><td>Sea State is defined in the following table:
The upper limits of wave height and wind speed shall be used unless otherwise specified.
<table>
<tr><th>Sea State</th><th colspan="2">Significant Wave Height (m)</th><th colspan="2">Sustained Wind Speed (knots)</th><th>Model Period (sec)</th></tr>
<tr><th></th><th>Range</th><th>Mean</th><th>Range</th><th>Mean</th><th></th></tr>
<tr><td>3</td><td>0.5 to 1.25</td><td>0.88</td><td>11 to 16</td><td>13.5</td><td>7.5</td></tr>
<tr><td>5</td><td>2.5 to 4</td><td>3.25</td><td>22 to 27</td><td>24.5</td><td>9.7</td></tr>
<tr><td>7</td><td>3.4 to 4.9</td><td>4.15</td><td>28 to 35</td><td>31.5</td><td></td></tr>
</table></td><td>p</td></tr>
<tr><td>NLTP - 441</td><td>The NLT shall be capable of operating throughout a 24 hour day, in both unrestricted and restricted visibility as defined by the Convention on the International Regulations for Preventing Collisions at Sea (COLREGS).</td><td>p</td></tr>
<tr><td>NLTP - 193</td><td>1.3.1.3 051.3 Threats</td><td></td></tr>
</table>

NLTP - 443	The NLT shall be built for early stage fire fighting and for support of rescue operations onboard or close to structures or ships on fire. These NLTs shall be designed with passive and active protection systems, giving them the capability to withstand higher heat radiation loads from external fires.	p
NLTP - 194	**1.3.1.4 051.4 Life Expectancy**	
NLTP - 444	The life of the NLT shall be designed for 25 years of operations beyond entering into service, and shall be efficient and economical to maintain over the lifespan of the NLT.	p
NLTP - 1973	The material used in the construction of the NLT shall meet the 25 year service life requirement.	p
NLTP - 195	**1.3.1.5 051.5 Dimensions and Constraints**	
NLTP - 445	The NLT full load draught shall not exceed 6m.	p
NLTP - 446	The NLT shall be capable of operating under the hull flare of all current and future RCN vessel classes.	p
NLTP - 447	The NLT shall have an adequate system of fenders to prevent structural damage and markings to thin hulled naval ships/vessels during berthing/un-berthing operations.	p
NLTP - 196	**1.3.1.6 051.6 Towing and Maneuvering**	
NLTP - 448	The Bollard Pull of the Proven Parent In-Service Vessel must be sufficient for two of them to be able to cold move a JSS-sized ship in the confines of Halifax and Esquimalt harbours, in sustained winds of 25 knots from any direction and in currents of up to 2 knots in any direction.	p
NLTP - 1974	The JSS notional particulars are as follows; - 210m length with 25,200 tonne displacement; - Estimated wind area above the design waterline 3,500m2 - Estimated underwater area below design waterline 1,450m2	p
NLTP - 450	Notwithstanding NLTP 448, the minimum Bollard Pull for the NLT must be at least 40 tonnes.	p
NLTP - 451	The NLT shall have seamless, uninterrupted, thrust vectors when changing the thrust direction through a full 360 degrees.	p
NLTP - 452	The NLT shall have the ability to turn itself on its own position ("on the spot") without creeping, or scribing an	p

<table>
<tr><td></td><td>arc through the water in 25 knot winds and 2 knot current acting in any direction.</td><td></td></tr>
<tr><td>NLTP - 453</td><td>The NLT shall have the ability to manoeuvre sideways ("sidestepping") along a line of bearing, on any axis, with the operator having simultaneous and continuous control over the NLT's heading, headway and sternway.</td><td>p</td></tr>
<tr><td>NLTP - 454</td><td>The NLT shall have an immediate response to control inputs changing the thrust direction and force.</td><td>p</td></tr>
<tr><td>NLTP - 455</td><td>The NLT shall have a simple, intuitive, and easy-to-operate control system which gives the operator a high degree of control over both the direction and the force of the thrust.</td><td>p</td></tr>
<tr><td>NLTP - 456</td><td>The helmsman shall be able to seamlessly change the propulsion direction to apply force in any vector around the NLT.</td><td>p</td></tr>
<tr><td>NLTP - 457</td><td>The NLT shall have a simple and easy to train thrust control system which will be operated by one person.</td><td>p</td></tr>
<tr><td>NLTP - 458</td><td>The operation direction of the mechanism that controls the direction and thrust of the vessel must correspond with the resultant direction of the vessel.</td><td>p</td></tr>
<tr><td>NLTP - 459</td><td>The NLT shall be able to transit (maintain course on desired heading at 100% MCR) with any heading in Sea State 5.</td><td>p</td></tr>
<tr><td>NLTP - 1975</td><td>The NLT shall be capable of transiting to a suitable port of refuge on the route with the best heading to evade worse weather (Sea State 6 and above)</td><td>p</td></tr>
<tr><td>NLTP - 197</td><td>1.3.1.7 051.7 Speed</td><td></td></tr>
<tr><td>NLTP - 460</td><td>The NLT shall achieve a minimum free-running speed of 12 knots in a fully loaded, deep departure condition, in calm water.</td><td>p</td></tr>
<tr><td>NLTP - 462</td><td>Tables 2 shows the anticipated power profile of the NLT.
<table>
<tr><td>Table 2 Power Profile</td><td></td></tr>
<tr><td>Power</td><td>Usage (%)</td></tr>
<tr><td>Idle</td><td>10%</td></tr>
<tr><td>70% (Working)</td><td>27%</td></tr>
<tr><td>80% (Working)</td><td>60%</td></tr>
<tr><td>100% (Full Power)</td><td>3%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
</table></td><td>p</td></tr>
<tr><td>NLTP - 198</td><td>1.3.1.8 051.8 Range</td><td></td></tr>
</table>

NLTP - 463	The NLT shall have a Range of not less than 1500 nautical miles (NM) at a transit speed of 10 knots for propulsion engines, generators, and the corresponding equipment for ship's operation in Sea State 2 at 0°C ambient air temperature with the fuel capacity determined from the difference between 95% Full Departure and 10% Arrival conditions.	p
NLTP - 464	The NLT shall be capable of Conducting out-of-harbour coastal towing of an MCDV (1000 tonne displacement, 56 m) up to 750 nautical miles from home port in Sea State 3.	p
NLTP - 199	**1.3.1.9 051.9 Endurance**	
NLTP - 465	The NLT shall have a provisions and stores endurance to sustain operations for (10) days with 6 persons.	NLT
NLTP - 467	The NLT shall have the fresh water storage capacity and the required pumps and fittings to be able to transfer a minimum of 10 tonnes of potable water, from its own storage tanks, to the DRDC research barge (YR494) and ships/vessels within close proximity of Esquimalt or Halifax harbours per visit.	p
NLTP - 2225	The NLT should have the fresh water storage capacity and the required pumps and fittings to be able to transfer a minimum of 20 tonnes of potable water, from its own storage tanks, to the DRDC research barge (YR494) and ships/vessels within close proximity of Esquimalt or Halifax harbours per visit.	NLT
NLTP - 200	**1.3.1.10 051.10 Crewing**	
NLTP - 468	The NLT will be crewed by Transport Canada (TC) certified personnel. NLTs must meet the TC manning regulations for the vessel type and voyage class.	NLT
NLTP - 471	The NLT will normally be operated from a centrally located Bridge Control Console by a single officer (the master or a watch officer) on the bridge.	p
NLTP - 472	The bridge shall be spacious enough to accommodate at least (3) watchstanders (pilot, lookout, engineer) to perform normal watchkeeping duties within the bridge interior.	p
NLTP - 474	Full Complement; - Full Complement is defined as not less than (6) persons.	p
NLTP - 201	**1.3.1.11 051.11 Compartmentation**	
NLTP - 475	As a minimum, the NLT shall accommodate the following compartments and lockers:	p

	- Bridge; - Deck Store; - Wet Gear/ Drying Locker; - Garbage Store; - Galley; - Dining/Recreation Area to seat (6) crew in (1) sitting; - Cabins for (6) crew (as per Transport Canada Towboat Regulations) with no less than 2 single cabins and no more than (2) crew in any cabin; - Gender neutral Washplace / Toilet Space (1); - Chain Locker; - Provisions Store; and - Engine Room.	
NLTP - 202	**1.3.1.12 051.12 Weatherdeck Arrangement**	
NLTP - 476	The forward, after, and waist decks of the NLT shall, as far as possible, be free of obstructions, to provide a clear, open working deck area, especially within the working radius of winches and lines.	p
NLTP - 477	The NLT shall have spacious forward and after working decks to facilitate pushing, pulling, towing, line handling, and other typical tug work, from the bow or from the stern.	p
NLTP - 478	The NLT shall have suitable arrangements to embark/disembark a pilot between the NLT and a warship when the NLT and vessel are underway at 5 knots or less and the NLT is against the side of the warship.	NLT
NLTP- 479	The NLT shall have at least one point of through-access on each of the port and starboard sides of the gunwales to enable the placement of a gangway to provide for safe access between the NLT and shore or between other vessels berthed alongside via the brow/gangway.	NLT
NLTP - 480	The NLT shall have bridge wings, a gangway or a deck that provides access to the port and starboard side of the bridge exterior, accessible through bridge doors.	p
NLTP - 203	**1.3.1.13 051.13 Accommodations**	
NLTP - 481	One single cabin shall be designated for the master and another for the chief engineer.	p
NLTP - 62	**1.3.2 052 Ship Subsystem Performance Concepts**	
NLTP - 204	**1.3.2.1 052.1 General**	
NLTP - 483	The NLT's systems shall be selected with simplicity of operation and maintenance as a prime consideration.	NLT

NLTP - 485	All machinery, structure, and outfit shall be designed to withstand the resultant forces from the ship/sea interactions and the anticipated environmental loads.	NLT
NLTP - 486	All essential propulsion and auxiliary equipment, and the associated fluid systems (such as lubrication system, fuel oil systems and hydraulic systems) shall be designed to operate when the NLT is upright, and under the list, roll, trim and pitch conditions likely to be encountered in service in Sea State 5.	p
NLTP - 205	**1.3.2.2 052.2 Hull Structure**	
NLTP - 487	The hull construction of the NLT shall be sufficient to withstand the environmental loads created from Sea State 6.	p
NLTP - 488	The NLT shall have a hull plate thickness with any proposed hull corrosive protection system to meet the 25-years service life requirement.	p
NLTP - 206	**1.3.2.3 052.3 Propulsion**	
NLTP - 489	The NLT shall have a minimum of two (2) Diesel Engine Prime Movers.	p
NLTP - 490	The NLT shall have a minimum of two (2) propulsion units that are each capable of providing 360 degrees of vectored thrust.	p
NLTP - 492	No unpredictable thrust vectors are to be developed during change of thrust direction.	p
NLTP - 493	The propulsion system and power train shall be capable of continuous low-speed (< 1kt) manoeuvres while the NLT is underway.	p
NLTP - 494	The propulsion system shall provide continued operation during reduction of electrical power generation (i.e. during loss of a generator).	p
NLTP - 495	While underway, the NLT shall be controlled from the Bridge by the Master and machinery shall be monitored from the Bridge by the Engineer.	p
NLTP - 496	The machinery plant shall be unmanned in the course of normal operations.	p
NLTP - 497	A microprocessor based control system related to the safe propulsion and navigation of the NLT shall be provided.	p
NLTP - 207	**1.3.2.4 052.4 Electric Plant**	
NLTP - 343	**1.3.2.4.1 052.4.1 Ship Service Generators**	

NLTP - 499	The NLT shall be designed with electrical power supplied by a minimum of two identical, independent, diesel driven, three phase, 60 Hz, minimum 400V AC ship's service generating sets.	p
NLTP - 500	The generator set (or sets) shall be able to continuously supply the peak cruising load at sea.	p
NLTP - 502	The generators shall be compliant with current IMO environmental standards for Marine Diesel Engines. As a minimum the engines shall be Tier III compliant.	NLT
NLTP - 503	The standby generator set shall be capable of automatically assuming the ship's service electrical load within 45 seconds after failure of the running generator in accordance with TP 127e.	NLT
NLTP - 344	**1.3.2.4.2 052.4.2 Electrical Systems**	
NLTP - 504	The NLT shall be provided with the following: - Primary Power (minimum 400 volts AC, 3 phase, 60 Hz) shall be distributed through the main switchboard, distribution switchboards and distribution panels throughout the vessel. This shall be delta connected ungrounded. - Secondary Power that is converted, by transformers, motor generators, static frequency converters, etc. from primary power and distributed throughout the vessel to lighting, receptacles, small appliances, etc. at 120 volts AC, three and single phase, 60 Hz. This shall be delta connected and ungrounded. - Tertiary Power that is converted by transformers to 240 volts AC, 60Hz, as required. - 24V DC Emergency Power as required for the safety of the crew and the survivability of the vessel. This shall be ungrounded, bonded to the hull at a single point. - 12V DC Power as required. This shall be ungrounded, bonded to the hull at a single point.	p
NLTP - 505	In accordance with TP 127e, all electrical apparatus shall be constructed so as to function satisfactorily during voltage fluctuations within 10% below and 6% above the nominal voltage of the system. Alternating current apparatus shall be constructed so as to function satisfactorily at frequencies within 5% of the nominal frequency of the system.	NLT
NLTP - 208	**1.3.2.5 052.5 Auxiliary Systems**	
NLTP - 346	**1.3.2.5.1 052.5.1 Harbour Firefighting**	

NLTP - 508	The NLT shall be fitted with a firefighting outfit of fire pumps, fire monitors, and water tanks, and other required equipment which conforms to the FFV 1 or equivalent notation.	p
NLTP - 347	**1.3.2.5.2 052.5.2 Damage Control and Firefighting**	
NLTP - 510	The internal damage control system and firefighting equipment shall: - be approved to meet TC, SOLAS and Classification Society requirements; and - be capable of extinguishing a fire within the main machinery spaces in an environmentally safe manner without the use of manned fire-fighting parties.	NLT
NLTP - 512	An intrusion alarm shall be provided.	
NLTP - 348	**1.3.2.5.3 052.5.3 Anchor Handling, Towing and Line Handling**	p
NLTP - 513	The NLT shall be equipped with anchoring equipment.	p
NLTP - 516	The NLT shall be configured with a suitable arrangement of deck fittings, including sufficient cleats, chocks and fairleads, to facilitate securing of mooring lines to the NLT for berthing.	p
NLTP - 349	**1.3.2.5.4 052.5.4 Lifesaving**	
NLTP - 519	The NLT shall be supplied with all lifesaving and safety equipment necessary to meet TC, SOLAS, and Classification Society requirements.	NLT
NLTP - 350	**1.3.2.5.5 052.5.5 Pollution Response Equipment**	
NLTP - 521	The NLT shall be able to embark and deploy Tier 1 pollution response equipment, a skimmer, and a standard-size PVC barrel of oil spill response materials. Note: See Transport Canada, Response Organizations Standards (1995) – TP 12401 E	NLT
NLTP - 523	The NLT shall be fitted with a covered stowage rack for two 20 litre gasoline containers for the Rescue Boat.	NLT
NLTP - 2232	The gasoline stowage rack shall be configured for jettisoning containers in an emergency.	NLT
NLTP - 351	**1.3.2.5.6 052.5.6 Storing and De-Storing**	
NLTP - 524	The NLT shall be capable of being refuelled and provisions embarked (including water, fuel and stores), or discharged (including potable water, grey and black water and dirty lube oil) from either side.	p

NLTP - 352	**1.3.2.5.7 052.5.7 HVAC**	
NLTP - 2286	The HVAC system shall be designed under the external ambient conditions defined in NLTP-439.	P
NLTP - 209	**1.3.2.6 052.7 Outfit and Furnishing**	
NLTP - 353	**1.3.2.6.1 052.7.1 Windows**	
NLTP - 529	The Bridge shall have large windows and sky ports to provide maximum all-round visibility.	p
NLTP - 15	**1.4 060 - SUBSYSTEM CHARACTERISTICS**	
NLTP - 63	**1.4.1 061 Hull Structure**	
NLTP - 530	The NLT shall be constructed of steel and shall be built in accordance with approved drawings, using approved materials and products tested, inspected and certified by a Regulatory Body.	p
NLTP - 64	**1.4.2 062 Propulsion Plant**	
NLTP - 210	**1.4.2.1 062.1 Power Train**	
NLTP - 540	The power train is defined as the prime movers (diesel engines), generators and electric motors (if hybrid or electric propulsion is selected), shafts, bearings, shaft seals, input gearboxes, and propellers as applicable to the drive system installation.	p
NLTP - 541	Power train, essential auxilliaries and control equipment must be selected from among models currently in production, and are available in North America with proven logistical support chains (sales offices, warehousing spares, and field service representatives) already established and currently operating in Canada.	NLT
NLTP - 542	The main propulsion machinery and essential auxiliaries shall be selected with all the components presently in service in a marine environment as an integrated unit with a minimum of 1000 hours operation.	p
NLTP - 211	**1.4.2.2 062.2 Diesel Engines**	
NLTP - 550	All diesel engines for the main propulsion, as generator prime movers or for the FFV 1 prime mover, if fitted, shall be selected from marine engine models type approved by a Classification Society.	NLT

NLTP - 551	For each of the selected pumps, generators and main propulsion diesel engines and their respective control systems, fitted on the first of class tug, the same manufacturer and model shall be fitted for the entire class of NLTs.	NLT
NLTP - 552	The propulsion engines, diesel generators and any FFV 1 diesel pumps shall be fuelled by commercially available diesel fuel.	p
NLTP - 553	The diesel engines shall be capable of operation on lubrication to a single or multi-grade commercially available (API/SAE graded) equivalent lubricating oil.	p
NLTP - 554	All diesel engines and control systems chosen shall be appropriate for continuous and satisfactory operation in a marine environment.	p
NLTP - 213	**1.4.2.4 062.4 Propulsion Control**	
NLTP - 561	The propulsion system shall be controllable and monitored through a microprocessor-based Integrated Platform Management System (IPMS).	p
NLTP - 562	The control system and alarm system shall be a distributed networked system. Each part of the machinery control system shall feedback all required data to the consoles.	p
NLTP- 566	Emergency stops for the machinery plant shall be located in the following places: - on the BCC; - on the MCC; - on the engine control panels in the engine room; and - outside the engine room door(s), at a prominent, rapidly accessible location.	NLT
NLTP - 567	Insofar as possible, all local engine controls, gauges and alarms shall be centrally co-located in the engine room near the engines.	p
NLTP - 568	Machinery, fire, emergency, and bilge audible and visual repeater alarms are required in the engine room. Audible and visual repeater alarms shall comply with and be located in accordance with TCMS and Classification Society requirements as applicable.	NLT
NLTP - 216	**1.4.3.3 063.3 Electric Cables**	
NLTP - 593	All electrical cables shall be commercial marine quality and an approved TCMS product or approved by a Classification Society or listed by a product certification body as meeting the TC recognized standards for shipboard or offshore marine installation.	NLT

NLTP - 218	**1.4.3.5 063.5 Emergency 24V DC Distribution and 12V DC Distribution**	
NLTP - 608	This system shall be provided in accordance with TP 127E and IMO Res A.534 (13) Code on Safety for Special Purpose Ships.	NLT
NLTP - 219	**1.4.3.6 063.6 Lighting System**	
NLTP - 354	**1.4.3.6.1 063.6.1 Lighting Fixtures**	
NLTP - 617	All lighting shall be CSA approved types, to fit common, commercially available sockets.	NLT
NLTP - 356	**1.4.3.6.3 063.6.3 Emergency Lighting**	
NLTP - 636	The level of illumination provided by the emergency lighting is to be adequate to permit safe evacuation in an emergency. All areas along the escape route or other low lighting location (LLL) shall have a minimum illumination of 50 lux in accordance with Maritime Occupational Health and Safety Regulations.	NLT
NLTP - 2182	Escape routes shall be clearly marked in accordance with SOLAS 1974, Regulation 13 - Means of escape.	NLT
NLTP - 357	**1.4.3.6.4 063.6.4 Illumination Levels**	
NLTP - 640	The general level of illumination (lux) for compartments and areas throughout the NLT shall be in accordance with the requirements as outlined in the CSA Towboat Crew Accommodation Regulations and the Canada Maritime Occupational Health and Safety Regulations.	NLT
NLTP - 66	**1.4.4 064 Command and Surveillance**	
NLTP - 644	The NLT shall be fitted with navigation equipment, communication equipment, collision avoidance signals, and miscellaneous aids sufficient in all respects for the safe handling of the NLTs as defined in all operations.	NLT
NLTP - 67	**1.4.5 065 Auxiliary Systems**	
NLTP - 220	**1.4.5.1 065.1 General**	
NLTP - 645	The auxiliary systems are defined as all installed systems required to support the operation of the NLT excluding the propulsion and electrical system. These include fuel oil, firemain, fire fighting, bilge and ballast, lubricating oil, diesel engine combustion air intake and exhaust, compressed air, steering system, HVAC, machinery space ventilation, fresh water, black	NLT

	grey water and sanitary flushing system, fire detection and extinguishing system, hydraulic, navigation and communication, and electrical power.	
NLTP - 646	Components and equipment of Auxiliary Systems must be from among models currently available in North America with proven logistical support chains (sales offices, warehousing spares, and field service representatives) already established and currently operating in Canada.	NLT
NLTP - 647	Essential auxiliary systems are defined as those systems required to maintain propulsion capability and damage control. These systems include fuel oil, firemain, bilge and ballast, lubricating oil, diesel engine combustion air intake and exhaust, steering system, machinery space ventilation, fire detection and extinguishing system, navigation and communication, and electrical power.	NLT
NLTP - 222	**1.4.5.4 065.3 Pumps**	
NLTP - 681	All pumps shall be of a commercial marine standard, suitable for intended service and compatible with the specified piping system materials.	NLT
NLTP - 223	**1.4.5.5 065.4 Instrumentation**	
NLTP - 688	Instruments (gauges, thermometers, indicator, etc.) for machinery, pumps, piping and mechanical systems shall be installed in accordance with OEM recommendations, TCMS and/or Classification Society requirements as applicable to ensure the safe operation of equipment and systems.	NLT
NLTP - 226	**1.4.5.8 065.7 Markings and Piping Designations**	
NLTP - 711	The identification of fluids in each piping system, and the direction of flow, shall be indicated on the pipes and is to be made by means of titles in both official languages, in accordance with ASME A13.1	NLT
NLTP - 714	Titles shall be clearly visible from operating positions, especially those adjacent to control valves.	NLT
NLTP - 715	Titles shall be applied by use of upper case letters and Arabic numerals.	NLT
NLTP - 718	Valve label plates shall be in accordance with ASTM F992 Valve Label Plates and shall be securely attached to all valves.	NLT
NLTP - 68	**1.4.6 066 Outfitting**	
NLTP - 227	**1.4.6.1 066.1 General**	

NLTP - 719	All controls for operating the machinery, equipment, instruments, pumping systems, valves, cocks, air pipes, inlets, sounding pipes, switches, etc shall be permanently marked with engraved plates mechanically fastened clearly showing their purpose.	NLT
NLTP - 228	**1.4.6.2 066.2 Colour**	
NLTP - 720	The interior and exterior colour scheme for the vessel, all furnishing and finishing materials shall be developed from CFTO D-23-003-005/SF-002 Specification for Maintenance Painting of HMC Ships. Paint colours called up in the scheme shall be in accordance with FED-STD-595C (formerly CGSB 1-GP-12c), Standard Paint Colours, Part 1 Colour Identification and Selection.	NLT
NLTP - 229	**1.4.6.3 066.3 Joiner Bulkheads and Linings**	
NLTP - 729	All joiner bulkheads, linings and ceilings shall be approved TCMS products.	NLT
NLTP - 16	**1.5 070 - GENERAL REQUIREMENTS FOR DESIGN AND CONSTRUCTION**	
NLTP - 69	**1.5.1 071 Access**	
NLTP - 231	**1.5.1.1 071.1 General**	
NLTP - 744	The accommodation, machinery spaces, working areas and other normally manned spaces shall have at least two means of escape.	p
NLTP - 745	For spaces below the main deck, the main means of escape shall be a stairway or inclined ladder.	NLT
NLTP - 234	**1.5.1.4 071.4 Doors, Hatches and Manholes**	
NLTP - 757	Dimension of clear openings to escape/access hatch on deck shall not be less than 600 mm x 600 mm.	NLT
NLTP - 759	Manholes provided for tanks, voids spaces, chain lockers, and cofferdams shall be oval with dimensions of least 600 mm x 800 mm	NLT
NLTP - 763	Doors should not open into passageways.	NLT
NLTP - 72	**1.5.4 076 Availability, Reliability and Maintainability**	
NLTP - 236	**1.5.4.1 076.1 Availability**	
NLTP - 789	Table 5 provides a maximum average annual usage profile per NLT:	NLT

<table>
<tr><td></td><td>
<table>
<tr><td colspan="4">Table 5 - Maximum Average Annual Usage per Tug:</td></tr>
<tr><th>Activity</th><th>Maximum Average Annual Usage per Tug (weeks)</th><th>Time %</th><th>Comments</th></tr>
<tr><td>Harbour Work</td><td>44</td><td>84</td><td></td></tr>
<tr><td>Out of Harbour Work</td><td>1</td><td>2</td><td>The maximum days out-of-harbour for both coasts over a five year sample study was 25 days (5 tugs)</td></tr>
<tr><td>Maintenance Periods</td><td>4</td><td>8</td><td>Each tug is projected to undergo two, two-week maintenance periods (total: four weeks) each year.</td></tr>
<tr><td>Refits</td><td>3</td><td>6</td><td>Average. Each tug is projected to undergo one 15-week refit at five-year intervals.</td></tr>
<tr><td>Total</td><td>52</td><td>100</td><td></td></tr>
</table>
</td><td></td></tr>
<tr><td>NLTP - 790</td><td>Excluding docking cycle requirements, the NLT shall have full operational availability of no less than 85%. Note: Non-availability (maintenance periods) periods include short work periods, docking work periods and refits.</td><td>NLT</td></tr>
<tr><td>NLTP - 792</td><td>Equipment, machinery and materials shall be selected to ensure reliable NLT operations for 2,000 hours of annual operations.</td><td>NLT</td></tr>
<tr><td>NLTP - 793</td><td>The NLT shall be able to fulfill its primary mission requirements when operated a maximum of 10 hours in a 24-hour period for 10 day missions.</td><td>NLT</td></tr>
<tr><td>NLTP - 794</td><td>The engine rating shall also be based on an engine Load Profile of 50% (to a maximum of 10 hours in a 24-hour period) at rated rpm and typical up to 2,000 hours/year.</td><td>NLT</td></tr>
<tr><td>NLTP - 237</td><td>1.5.4.2 076.2 Reliability</td><td></td></tr>
<tr><td>NLTP - 799</td><td>To achieve a high operational availability for the ship, the selection of material and equipment shall be based in part on the in-service maintenance concepts of:
- Repair by Replacement of defective components or assemblies that eliminates the requirement for component repair on board; and
- Maintain by Exchange of the complete equipment where Repair by Replacement is too time consuming, complex or inhibited by post repair testing requirement.</td><td>NLT</td></tr>
<tr><td>NLTP - 238</td><td>1.5.4.3 076.3 Maintainability</td><td></td></tr>
<tr><td>NLTP - 802</td><td>The NLT shall be designed to:
- minimize the frequency and duration of maintenance periods;</td><td>NLT</td></tr>
</table>

	- as far as practicable, allow the conduct of preventative maintenance without affecting operations and operational availability; and - have preventative and corrective maintenance, as much as practicable, not be conducted by core crew.	
NLTP - 73	**1.5.5 077 Safety**	
NLTP - 803	The NLT shall be designed to provide a safe and comfortable working environment for the crew.	NLT
NLTP - 804	The interface between the NLT and shore shall be designed to provide safe accessible embarkation and disembarkation of the complement to and from the NLTs.	NLT
NLTP - 805	The NLT shall have a First-aid station furnished with first-aid supplies and equipment in accordance with the Maritime Occupational Health and Safety Regulations and TC requirements, conveniently located in the superstructure.	NLT
NLTP - 807	Permanent Warning and Danger signs, in both official languages, shall be posted for identifying hazardous devices and for area demarcation, where applicable.	NLT
NLTP - 74	**1.5.6 078 Materials**	
NLTP - 811	All the materials, machinery, equipment and outfitting for all purposes throughout the NLTs, shall conform to the following basic requirements: - Shall be certified by an appropriate Nationally Recognized Test Laboratory e.g. Underwriter's Laboratories (ULC), or Canadian Standards Association (CSA), or - be in accordance with applicable Regulatory Body standards.	NLT
NLTP - 813	All steel plates, sections and castings shall be new.	NLT
NLTP - 815	Steel plate shall be shipbuilding steel approved by a Regulatory Body, with steel shapes in accordance with ASTM 131.	NLT
NLTP - 820	All hoses shall be as per SAE J1942 Hose and Hose Assemblies for Marine Applications. Hoses shall also comply with CSA 90-264 Schedule IX.	NLT
NLTP - 75	**1.5.7 079 Seaworthiness**	
NLTP - 239	**1.5.7.1 079.1 Stability and Subdivision**	
NLTP - 823	This NLT shall meet or exceed the intact and damage stability criteria for type III vessels as specified in the	NLT

	Canadian Forces Technical Order Stability and Buoyancy Requirements for Surface Ships (C-03-001-024/MS-002).	
NLTP - 2133	The NLT shall comply with STAB 3 from TP 7301 and the Canada Shipping Act 2001, “Hull Construction Regulations”, C.R.C., c1431 (PART VIII Ships Built or Converted for Towing).	NLT
NLTP - 2206	The NLTshall meet the stability towing criteria of the International Association of Classification Societies "Unified Requirement No. 24 Intact Stability".	NLT
NLTP - 24	**2.6 170 - MASTS, KINGPOSTS AND SERVICE PLATFORMS**	
NLTP - 88	**2.6.1 171 Mast**	
NLTP - 902	A mast shall be fitted to carry radars, antennae, navigating lights and signals in accordance with COLREGS.	p
NLTP - 2005	The mast may be of the folding type to allow the NLT to operate under the flare of warships. Folding arrangement can be automatic or manual. If manual, the mast must be folded and unfolded by one person in not more than 10 minutes.	p
NLTP - 2003	The mast structure and the associated platforms and overhangs shall be designed to provide rigid foundations to support the electronic navigation equipment such as radar and antennae.	p
NLTP - 905	Yards, spreaders, and gaffs, with platforms and brackets shall be provided as necessary for all navigation, communication, and signal equipment. They shall be of steel pipe and plate and be designed to be completely self-supporting with all equipment in place.	p
NLTP - 906	Sufficient cleats for signal halyards shall be provided. Standing rigging should be reduced to a minimum.	p
NLTP -3	**3 GROUP 2 - PROPULSION**	
NLTP - 26	**3.1 230 - PROPULSION UNITS**	
NLTP - 89	**3.1.1 233 Propulsion Internal Combustion Engines**	p
NLTP - 923	The main engines shall be suitable for operation in an unattended engine room.	p
NLTP - 94	**3.2.5 245 Propulsors**	
NLTP - 2170	The propulsors shall be suitable for tug boat operations and have proven performance in tug boats currently in operation.	p

NLTP - 956	If applicable, the propulsors shall have the recommended sacrificial anodes installed as per the manufacturer's instructions.	p
NLTP - 256	**3.3.2.1 252.1 Bridge and Machinery Control Consoles (General)**	
NLTP - 2010	All indicators on the Bridge and the exterior shall be visible in full sunlight.	NLT
NLTP - 363	**3.3.2.1.2 251.1.2 Machinery Control Console**	
NLTP - 985	The MCC shall be linked to a dedicated printer and provided with hard disk and removable drives for secure, non-volatile storage of the bell log, all alarms, warnings, and machinery parameters.	NLT
NLTP - 98	**3.3.4 259 Uptakes**	
NLTP - 1009	The NLT's exhaust stack(s) shall be situated to allow clear vision forward and aft.	p
NLTP - 2013	The installation of the diesel exhaust system shall be in accordance with IMO Res A.468(XII) and SOLAS regulation ll-1/3-12.	NLT
NLTP - 99	**3.3.5 262 Lubricating Oil System**	
NLTP - 1021	Lubrication oil shall be provided to the diesel engines, gearboxes and prime movers for and generator sets as recommended by the manufacturers.	NLT
NLTP - 2016	The lubricating oil system shall comply with CSA (SOR/90-264, Schedule XIV).	NLT
NLTP - 1029	The lubricating oil systems for each diesel shall be supplied by or conform to the engine manufacture's specifications.	NLT
NLTP - 1038	Tanks that supply make-up oils for engines shall be provided of the type, capacity and general location as recommended by the equipment manufacturers.	p
NLTP - 1039	All tanks in the system shall be provided with approved oil level indicators, sounding tubes, filling pipes, ventilation, manholes, cleanout holes, as required and all necessary connections and fittings.	p
NLTP -4	**4 GROUP 3 - ELECTRIC PLANT**	
NLTP - 29	**4.1 310 - ELECTRIC POWER GENERATION**	
NLTP - 100	**4.1.1 311 Ship Service Power Generation**	
NLTP - 1049	Ships Service electrical power shall be provided by a minimum of two ship service generators.	p

NLTP - 1051	Each diesel engine driving the ship's service generators shall be capable of burning the same diesel oil and be lubricated by the same lubricating oil as the propulsion main engines.	p
NLTP - 1054	The engine shall be provided with all accessories recommended by the manufacturer for continuous service at sea and shall be installed complete with all attached auxiliaries.	p
NLTP - 101	**4.1.2 313 Batteries and Service Facilities**	
NLTP - 257	**4.1.2.1 313.1 Uninterruptible Power Supplies (UPS)**	
NLTP - 1055	Uninterruptible Power Supplies (UPS) shall be provided for essential systems, including: BCC, general alarm and public address systems, fitted VHF radio, fire detection/extinguishing and alarm systems, emergency lighting, and other vital systems such as machinery control and communications in accordance with TP 127E.	NLT
NLTP - 1056	The Uninterruptible Power Supplies shall be designed for an input voltage of the primary power system.	p
NLTP - 2022	UPS units shall be constructed in accordance with IEC 62040 or an acceptable and relevant National or International Standard.	NLT
NLTP - 258	**4.1.2.2 313.2 Batteries and Charging Systems**	
NLTP - 2023	Each set of Group 1 and Group 2 batteries shall be sized to have sufficient capacity to meet requirements of TP127E for main engine starting.	NLT
NLTP - 1066	Batteries and their associated charging facilities shall be installed and adequately vented in accordance with TP127.	NLT
NLTP - 102	**4.1.3 314 Power Conversion Equipment**	
NLTP - 259	**4.1.3.1 314.1 Transformers**	
NLTP - 1073	Transformers are to comply with the requirements of one of the following standards: - IEC 60076, - IEC 60092-503, or - An acceptable and relevant National Standard as determined by a Classification Society.	NLT
NLTP - 1074	Isolation transformers shall be fitted to the shore supply system. Converters are to comply with the requirements of IEC 60146, or an acceptable and relevant National Standard.	NLT

NLTP - 260	**4.1.3.2 314.2 Static Converters**	
NLTP - 2025	Converters shall comply with the requirements of IEC 60146, or an acceptable and relevant National Standard.	NLT
NLTP - 30	**4.2 320 - POWER DISTRIBUTION SYSTEM**	
NLTP - 2026	The power distribution system shall be installed with switchboards, transformers, panel boards, cabling, breakers and receptacles in accordance with the Regulatory Body approved single line diagram and all related drawings.	NLT
NLTP - 103	**4.2.1 321 Ship Service Power Cables**	
NLTP - 261	**4.2.1.1 321.1 Shore Connection**	
NLTP - 1078	Watertight NEMA shore connections, with transformer if required, shall be provided conveniently located on the weather deck and readily accessible to shore cables from either side of the NLT to accept 450 V, 100 amp, 3 phase, 60 Hz power.	NLT
NLTP - 1082	A shore cable, 46 m in length, shall be provided and appropriately marked to indicate 450 V service.	NLT
NLTP - 1083	Stowage reels, weatherproof caps for the connectors and weatherproof stowage for the cables shall be provided on-board.	NLT
NLTP - 1084	An indicating light (white) and a phase sequence indicator shall be provided on the connection boxes to indicate shore power bus energized.	NLT
NLTP - 1085	The shore connection shall be provided with an indicator at the main switchboard in order to show when the cable is energized. A voltmeter and voltmeter switch shall be provided for reading each phase voltage of the shore connection.	NLT
NLTP - 1087	A bilingual warning plate instructing personnel to isolate all supplies prior to working within the enclosure shall also be provided on each connection box.	NLT
NLTP - 1088	All shore power connections shall be provided with a ground connection terminal for connecting the NLT's hull to the shore ground.	NLT
NLTP - 1089	The shore connection plugs shall be sized to suit the expected harbour load and shall be compatible with the existing shore power receptacles fitted at CFBs Halifax and Esquimalt. The 450V, 100 amp facilities at CFB Halifax and Esquimalt have three, single phase NEMA 4X (IP56) watertight receptacles.	NLT

NLTP - 2172	A shore connection for low pressure air, telephone, DWAN, internet and fire alarm pull station shall be fitted port and starboard.	NLT
NLTP - 104	**4.2.2 324 Switchgear and Panels**	
NLTP - 262	**4.2.2.1 324.1 Switchboards**	
NLTP - 1091	The ship service generator and distribution switchboards shall be arranged for operation of generator circuit breakers and for distribution of power as required.	p
NLTP - 1092	The main switchboard shall be installed in an accessible and well-ventilated location with the access entrances, and operating and maintenance clearances in accordance with IEEE 45 but not less than TP127E.	NLT
NLTP - 1097	The switchboards shall be mounted in accordance with the manufacturer's recommendations and TP127E requirements.	NLT
NLTP - 31	**4.3 330 - LIGHTING SYSTEMS**	
NLTP - 105	**4.3.1 332 Lighting Fixtures**	
NLTP - 264	**4.3.1.1 332.1 Specific Lighting Requirements**	
NLTP - 365	**4.3.1.1.1 332.1.1 Wheelhouse/Bridge**	
NLTP - 1118	All illumination in the wheelhouse shall be capable of being dimmed to black as a group except the lighting of alarm and warning indicators and the controls of dimmers which are to remain readable.	NLT
NLTP - 1120	The Chart Table shall be provided with supplementary dimmable lighting, one fixture for each 1.5 metres section of the chart table, complete with an amber filter to produce at least 500 lux at the table undimmed.	NLT
NLTP - 371	**4.3.1.1.7 332.1.7 Floodlights**	
NLTP - 372	**4.3.1.1.8 332.1.8 Searchlights**	
NLTP - 1144	Two searchlights shall be fitted.	NLT
NLTP -5	**5 GROUP 4 - COMMAND & SURVEILLANCE**	
NLTP - 32	**5.1 420 - NAVIGATION SYSTEMS**	
NLTP - 106	**5.1.1 421 Non-Electrical Navigation Aids**	

NLTP - 1151	One illuminated standard magnetic compass shall be provided.	p
NLTP - 2216	One spare identical magnetic compass shall be provided.	NLT
NLTP - 1152	The magnetic compass shall comply with the requirements of TP3668E and IMO Resolution “A.382(X).	NLT
NLTP - 2030	Conductors and equipment must be placed at such a distance from the magnetic compasses, or are to be so disposed, that the interfering magnetic field is negligible when circuits are switched on and off.	NLT
NLTP - 2281	Aids to navigation shall be provided to meet the requirements of regulatory bodies and Classification Society rules.	NLT
NLTP - 1155	Hoisting arrangements shall be provided for displaying the day shapes and international code flags.	p
NLTP - 2032	A waterproof flag locker, with routinely used signal flags and shapes in accordance with COLREGS shall be situated near the halyards.	NLT
NLTP - 107	**5.1.2 422 Navigation Lights**	
NLTP - 1156	Navigation lights conforming to TP1861 Standards for Navigation Lights, Shape, Sound Signals Appliances and Radar Reflectors shall be installed and located to comply with Transport Canada Collision regulations C.R.C., c.1416.	NLT
NLTP - 1157	Navigation light circuits shall be independent of any other circuits.	NLT
NLTP - 1158	The following, as minimum, shall be included: - Anchor light; - Masthead lights; - Stern Light - Towing Light - Sidelights - Not-under-command lights The NLT shall also be fitted with a blue flashing light. The blue flashing light shall interface with an integrated alarm panel to provide visible indication in the unmanned alarm condition.	p
NLTP - 1159	A central control panel for all navigation lights shall be fitted at the BCC.	p
NLTP - 108	**5.1.3 423 Electronic Navigation Systems Above Water**	
NLTP - 265	**5.1.3.1 423.1 Electronic Positioning Fixing**	

NLTP - 1163	A Differential Global Positioning System (DGPS), satellite navigation shall be provided.	NLT
NLTP - 1164	The DGPS shall provide the NLT's position to the NLT's ECDIS.	NLT
NLTP - 1165	A Global Positioning System (GPS) shall be installed capable of supplying a secondary input to the ECDIS.	p
NLTP - 1166	The DGPS shall be installed at the chart table.	NLT
NLTP - 266	**5.1.3.2 423.2 Electronic Chart Display & Information System (ECDIS)**	
NLTP - 1167	The NLT shall be fitted with an Electronic Chart Display and Information System (ECDIS) or equivalent.	NLT
NLTP - 1168	The ECDIS shall be compliant with the International Maritime Organization (IMO) (Resolution A.817(19)), and the International Hydrographic Organization (IHO) standard in force at entry into service.	NLT
NLTP - 1170	An ECDIS system shall be installed with DGPS input and radar overlay.	NLT
NLTP - 2034	An ECDIS system shall be installed with GPS input and radar overlay.	NLT
NLTP - 1172	The ECDIS system shall interface with the autopilot, navigation inputs from DGPS, gyrocompass, speed log, echo sounder, automatic radar plotting aids, navigational radar, automatic identification system, and anemometer(s).	NLT
NLTP - 267	**5.1.3.3 423.3 Automatic Radar Plotting Aids (ARPA)**	
NLTP - 1174	An ARPA system shall be installed and the system shall provide interface with the ECDIS in order that information on a specific ARPA contract can be displayed on the ECDIS.	NLT
NLTP - 1175	The ARPA system shall comply with requirement of IMO Resolution A.823(19).	NLT
NLTP - 268	**5.1.3.4 423.4 Automatic Identification System (AIS)**	
NLTP - 1176	The NLT shall be fitted with an automatic identification system (AIS) capable of providing to ships and to authorities information from the ship, automatically and with the required accuracy and frequency to facilitate accurate tracking.	p
NLTP - 1177	AIS system shall comply with requirement of IMO Resolution MSC.74 (69), annex 3.	NLT
NLTP - 1178	The AIS shall provide AIS information to the ship's ECDIS.	NLT

NLTP - 1179	Display for AIS shall be fitted in the BCC.	p
NLTP - 269	**5.1.3.5 423.5 Autopilot System**	
NLTP - 1180	An automatic pilot system shall be installed.	p
NLTP - 2218	The automatic pilot system shall be fitted in the BCC.	p
NLTP - 109	**5.1.4 424 Electronic Navigation Systems Underwater**	
NLTP - 270	**5.1.4.1 424.1 Speed and Distance Log**	
NLTP - 1183	A speed and distance log system shall be installed.	p
NLTP - 1184	The speed and distance log system will supply the ship's velocities in digital format and direction, at low ship's speed in relatively shallow water and with high resolution.	P
NLTP - 1185	Numeric displays shall be located in the BCC.	p
NLTP - 1186	The speed log system shall provide the NLT speed information to the NLT's ECDIS.	P
NLTP - 1187	The speed log system is to be used directly by the ARPA as an aid to collision avoidance.	P
NLTP - 271	**5.1.4.2 424.2 Depth Sounder**	
NLTP - 2282	One recording type depth finder providing accurate depth indication shall be provided.	P
NLTP - 1189	The echo sounder system with a shallow depth alert shall be capable of paper recording, and on-demand electronic recording and storage of data for the depth(s), temperature and position.	NLT
NLTP - 1190	The echo sounder display shall be located in the BCC.	p
NLTP - 110	**5.1.5 427 Inertial Navigation Systems**	
NLTP - 1191	A pelorus shall be provided.	NLT
NLTP - 1196	The placement of the helmsman's magnetic compass shall allow the master to use either display for steering operations.	NLT
NLTP - 33	**5.2 430 - INTERIOR COMMUNICATIONS**	
NLTP - 1197	The interior communication systems shall be installed to provide 2 way voice transmission between spaces	p

	that can reasonably assumed to be manned, as well as the bridge, to allow for point to point communications around the ship.	
NLTP-2294	The NLT shall have, as a minimum, installed internet/DWAN on the bridge, cabins, master's cabin, chief engineer's cabin, and crew lounge.	NLT
NLTP - 111	**5.2.1 432 Telephone Systems**	
NLTP - 272	**5.2.1.1 432.1 Automatic Telephones**	
NLTP - 1201	A watertight telephone connection box shall be provided in a protected location accessible, port and starboard, for connection to shore telephone line.	NLT
NLTP - 2212	The NLT shall have, as a minimum, installed telephones on the bridge, gangway areas, cabins, master's cabin, chief engineer's cabin, and crew lounge.	p
NLTP - 112	**5.2.2 433 Announcing Systems**	
NLTP - 274	**5.2.2.1 433.1 Public Address System**	
NLTP - 2202	A public address system shall be installed.	p
NLTP - 275	5.2.2.2 433.2 Talkback Broadcast/Intercom System	p
NLTP - 1206	An Upper Deck Broadcast System shall be supplied complete with volume control and sufficient out stations to co-ordinate operations aboard the NLT.	p
NLTP - 113	**5.2.3 436 Alarm, Safety and Warning Systems**	
NLTP - 1208	An integrated digital alarm and monitoring system for the main engines, diesel generator(s), propulsion units and switchboard shall be fitted.	p
NLTP - 2037	The alarm and monitoring system shall include tank level indication, fire detection and general alarm as distinct features.	p
NLTP - 1210	Installation shall comply with TCMS and Classification Society requirements and CSA (SOR/90-264, Schedule XIII).	NLT
NLTP - 276	**5.2.3.1 436.1 Fire Detection and Bilge Level Alarms**	
NLTP - 1212	An alarm system shall be installed to provide bilge level detection and fire detection.	p
NLTP - 1217	Audio and visual alarm shall be activated at the Bridge Control Console and machinery space automatically.	NLT

NLTP - 277	**5.2.3.2 436.2 General Alarm**	
NLTP - 1218	An audible general alarm shall be provided throughout all the accomodation and crew working spaces, and integrated with the public address system.	p
NLTP - 34	**5.3 440 - EXTERIOR COMMUNICATIONS**	
NLTP - 115	**5.3.1 441 Radio Systems**	
NLTP - 280	**5.3.1.1 441.1 General**	
NLTP - 1228	The exterior radio communications system shall consists of the following: - (1) VHF radio installation; - (1) MF/HF dual radio transceiver system.	p
NLTP - 281	**5.3.1.2 441.2 Global Maritime Distress and Safety Systems**	
NLTP - 2220	The NLT shall be equipped with ship station and radio equipment for a Global Maritime Distress and Safety System (GMDSS) for Sea Area 1.	NLT
NLTP - 1230	GMDSS equipment shall be certified by Innovation, Science, Economic Development Canada and tested by a country to which the SOLAS convention applies, where applicable.	NLT
NLTP - 116	**5.3.2 443 Visual and Audible Communication Systems**	
NLTP - 282	**5.3.2.1 443.1 Ships Whistle**	
NLTP - 1231	The NLT whistle shall be compliant with COLREGS and SOLAS and shall be capable of being operated from the Bridge.	NLT
NLTP - 1232	The whistle system shall interface with an integrated alarm panel to provide audible indication when the NLT is in an unmanned condition.	NLT
NLTP - 1233	The whistle shall be operable during a power failure by 24V DC.	NLT
NLTP - 283	**5.3.2.2 443.2 Ships Bell**	
NLTP - 1234	One brass or bronze marine bell complete with mounting brackets, clappers, striking lanyards, and other miscellaneous hardware shall be installed.	NLT
NLTP - 1235	The bell shall be cast and engraved or etched with the name of the ship and the year of completion.	NLT

NLTP - 35	**5.4 450 - SURVEILLANCE SYSTEMS (SURFACE)**	
NLTP - 117	**5.4.1 451 Surface Surveillance (Navigation) Radar**	p
NLTP - 1237	A commercial marine navigational radar shall be installed with collision avoidance display, Automatic Radar Plotting Aids (ARPA) and alarm system. The radar shall be as follows: - (1) radar 3cm X band operating at 9GHz.	p
NLTP - 2289	A commercial marine navigational radar shall be installed with collision avoidance display, Automatic Radar Plotting Aids (ARPA) and alarm system. The radar shall be as follows: -(1) radar 10cm S band operating at 3GHz.	NLT
NLTP - 1238	The radar system shall provide radar video and ARPA information to the ship's ECDIS.	NLT
NLTP - 119	**5.5.2 494 Meteorological System**	
NLTP - 1241	The NLT shall be fitted with a Meteorological system with as a minimum, an anemometer, a thermometer, and a barometer.	p
NLTP - 121	**6.1.2 512 Ventilation Systems**	
NLTP - 1262	Mechanical ventilation shall be provided to all non-air conditioned spaces, to maintain the required air changes not less than the requirements in the Transport Canada Towboat Crew Accommodation Regulations.	NLT
NLTP - 122	**6.1.3 513 Machinery Space Ventilation**	
NLTP - 1268	Mechanical ventilation systems and space heaters shall be designed and fitted in accordance with TCMS and/or Classification Society requirements as well as ISO 8861 and 8862 as applicable.	NLT
NLTP - 38	**6.2 520 - SEA WATER SYSTEMS**	
NLTP - 125	**6.2.1 521 Firemain and Flushing (Sea Water) System**	
NLTP - 2047	The firefighting system shall comply with TCMS and/or Classifictaion Society requirements as applicable.	NLT
NLTP - 128	**6.2.4 529 Ballasting System**	
NLTP - 285	**6.2.4.1 529.1 Bilge and Ballast System**	

NLTP - 1317	A means of pumping bilge contents to an upper deck discharge connection shall be fitted.	p
NLTP - 2056	The bilge/ballast system shall comply with CSA (SOR/90-264, Schedule XV).	NLT
NLTP - 2058	Machinery space bilge water must drain into oily-bilge collection tank.	NLT
NLTP - 39	**6.3 530 - FRESH WATER SYSTEMS**	
NLTP - 129	**6.3.1 533 Potable Water**	
NLTP - 2226	The NLT shall be fitted with hot and cold, pressurized water system with sufficient capacity to meet the needs of embarked personnel for the continuous underway duration.	p
NLTP - 1330	The potable water system shall be designed and fitted in accordance with Health Canada Regulations, Maritime Occupational Health and Safety Regulations and Classification Society requirements.	NLT
NLTP - 2059	The potable water system shall comply with ISO 5620-1 and 5620-2.	NLT
NLTP - 1351	An automatic system shall be provided to sample the potable water in the tank and if required, the system shall have accomodations to allow the ship's staff to add chlorine or bromine to ensure that the quality meets the requirements stipulated in Guidelines for Canadian Drinking Water Quality Summary Table – October 2014.	NLT
NLTP - 40	**6.4 540 - FUELS AND LUBRICANTS HANDLING AND STOWAGE**	
NLTP - 130	**6.4.1 541 Ship Fuel and Fuel Compensating System**	
NLTP - 1354	The NLT shall be fitted with a fuel oil system covering storage, transferring, treating/cleaning, supply/use and discharge of the appropriate fuel in accordance with engine manufacturers recommendations and in compliance with CSA (SOR/90-264, Schedules IX and XII).	NLT
NLTP - 41	**6.5 550 - AIR, GAS AND MISC. FLUID SYSTEMS**	
NLTP - 131	**6.5.1 551 Compressed Air System**	
NLTP - 1382	A compressed air system shall be provided for ship service air and for engine starting, if selected engine start system is compressed air.	p

NLTP - 1383	The compressed air system shall comply with TCMS and/or Classification Society requirements as applicable.	NLT
NLTP - 2068	Air delivery shall comply with ISO 8573.1 (2001) quality class 3 as a minimum air quality standard and CSA (SOR/90-264, Schedule XI)	NLT
NLTP - 132	**6.5.2 555 Fire Extinguishing Systems**	
NLTP - 289	**6.5.2.1 555.1 Fixed Fire Extinguishing Systems**	
NLTP - 1406	No Ozone Depleting Substance shall be used in any fire extinguishing system.	NLT
NLTP - 1410	Firefighting and control markings shall be in accordance with IMO Standards. Photo-luminescent pictograms shall be supplied.	NLT
NLTP - 290	**6.5.2.2 555.2 Portable Fire Fighting Equipment**	
NLTP - 1411	The Contractor shall identify and supply equipment required to meet Regulatory Body standards and shall provide sufficient storage space and racks as required.	NLT
NLTP - 1414	All Contractor supplied portable extinguishers shall be CSA marine-labelled, certified types with mounting brackets. The quantity, size, type and location of all extinguishers shall meet the requirements of the Regulatory Body.	NLT
NLTP - 133	**6.5.3 556 Hydraulic Fluid System**	
NLTP - 1415	The hydraulic system shall comply with TCMS and/or Classification Society requirements.	NLT
NLTP - 42	**6.6 570 - REPLENISHMENT SYSTEMS**	
NLTP - 134	**6.6.1 572 Ship Stores and Equipment Handling Systems**	
NLTP - 291	**6.6.1.1 572.1 Deck Crane**	
NLTP - 1445	The deck crane shall be electro-hydraulically operated, be able to reach the main working deck, and have sufficient reach to: - deploy fuel spill response equipment over the gunwales, and - be capable of loading and off-loading light cargo when the NLT is alongside dock, and - launch and recover the NLT's Rescue Boat.	NLT
NLTP - 2230	The NLT deck crane shall be of a davit or extending boom type.	p

NLTP - 43	**6.7 580 - MECHANICAL HANDLING SYSTEMS**	
NLTP - 135	**6.7.1 581 Anchor Handling and Stowing Systems**	
NLTP - 1451	The NLT shall be provided with certified anchors and chain cables as required.	p
NLTP - 136	**6.7.2 582 Mooring and Towing Systems**	
NLTP - 1459	All towing equipment and lines shall be of size and length suitable for the maximum tow defined.	p
NLTP - 292	**6.7.2.1 582.1 Mooring**	
NLTP - 1460	Stowage spaces/racks shall be provided to accommodate hawsers, mooring and towing lines, and equipment (such as cable jack, sledge hammer, pry bars, cable bags, portable fenders, rat guards, fire axes) to support anchoring, mooring/berthing.	p
NLTP - 1462	Mooring fittings such as bollards, chocks and cleats shall be in accordance with industry standards such as ASTM.	p
NLTP - 2086	Mooring fittings such as bollards, chocks and cleats shall be approved by the Regulatory Body.	p
NLTP - 293	**6.7.2.2 582.2 Towing**	
NLTP - 1468	Towing equipment and arrangement shall be designed, tested and approved in accordance with the Regulatory Body.	p
NLTP - 373	**6.7.2.2.1 582.2.1 Hawser/Towing Winches**	
NLTP - 375	**6.7.2.2.1.1 582.2.1.1 General**	
NLTP - 2189	The position of winches and towing equipment will be dependent on the configuration of the chosen propulsion drive system.	p
NLTP - 1471	All hawser/towing winches shall be self tensioning and capable of holding enough synthetic line and/or wire rope for the size of NLT with a minimum safety factor of 2.5.	p
NLTP - 2089	All hawser/towing winches shall operate at the NLT's maximum rated bollard pull.	p
NLTP - 1472	Hawser/Towing winches shall be situated as to maximize towing efficiencies and maintain a clear working deck and incorporate features into the minimum number of units.	p

NLTP - 1474	The hawser/towing winch shall be fitted with spooling gear, towing pins, roller and cable clamps.	p
NLTP - 1475	All winch cables to be fitted with tow hooks capable of absorbing the maximum bollard pull with a minimum safety factor of 2.5.	p
NLTP - 2090	The tow hook shall have an automatic release and be provided with a built in shock absorber.	p
NLTP - 1476	All winches shall have a quick release mechanism controllable locally as well as remotely from the Bridge.	p
NLTP - 1477	An encapsulated staple, suitable for use with synthetic lines, shall be fitted and configured for use with the winches provided.	p
NLTP - 2091	The encapsulated staples shall be of a highly polished material such as stainless steel to prevent abrasion to synthetic lines.	p
NLTP - 1478	The hawser winch, staple and fairleads shall be situated to allow the hawser to be deployed at the centre line and to each side of the NLT.	p
NLTP - 1488	Hawsers and winches shall be multi-drum, waterfall or single purpose.	p
NLTP - 374	**6.7.2.2.2 582.2.2 Winch Controls**	
NLTP - 1489	All winches shall have both local and remote controls.	p
NLTP - 1490	The primary control shall be from the bridge.	p
NLTP - 137	**6.7.3 583 Boats, Boat Handling and Stowage Systems**	
NLTP - 1496	Each NLT shall have a Rescue Boat with outboard motor. The Rescue Boat shall: - be SOLAS certified for the full crew; - be used to recover persons overboard, to shepherd the tug's life rafts.	NLT
NLTP - 1504	The deck crane shall be used to launch and recover the Rescue Boat in compliance with SOLAS.	NLT
NLTP - 44	**6.8 590 - SPECIAL PURPOSE SYSTEMS**	
NLTP - 138	**6.8.1 593 Environmental Pollution Control Systems**	
NLTP - 1506	The NLT shall comply with all national and international pollution prevention regulations in force at Contract Award.	NLT
NLTP - 294	**6.8.1.1 593.1 Air Pollution Abatement Systems**	

NLTP - 1507	All engines on the NLT, including propulsion, fire pumps, and generators shall be compliant with applicable IMO regulations.	NLT
NLTP - 1508	The engines shall be compliant with IMO environmental regulations—Tier III.	NLT
NLTP - 295	**6.8.1.2 593.2 Oil Pollution Abatement Systems**	
NLTP - 1509	The Oily Bilge Water system shall be installed and shall consist of a saveall at the fuelling station to contain leaks or spills during fuelling, an oily water collection tank, a dirty oil tank, bilge alarm, oil separator with oil content monitor, transfer pump and piping system.	NLT
NLTP - 1511	The Contractor should select the appropriate pollution prevention equipment from the TCMS Approved Pollution Prevention Equipment Catalogue (see TCMS Approved Products Catalogue Index).	NLT
NLTP - 296	**6.8.1.3 593.3 Sewage Treatment and Disposal Systems**	
NLTP - 2098	The system shall be designed and fitted in accordance with the Regulatory Body.	NLT
NLTP - 1538	The treatment plant shall be certified to meet or exceed the requirements laid out in MARPOL Annex IV.	NLT
NLTP - 297	**6.8.1.4 593.4 Solid Waste Disposal Systems**	
NLTP - 1542	The NLT shall have a stowage room for containers/bins to collect sorted garbage, recyclable material and regular waste.	NLT
NLTP - 139	**6.8.2 594 Ship Escape, Evacuation and Survival Systems**	
NLTP - 299	**6.8.2.1 594.1 General**	
NLTP - 1560	The NLT shall carry life saving equipment for the full complement in accordance with TCMS Life Saving Equipment Regulations.	NLT
NLTP - 1561	The NLT shall be furnished with Transport Canada approved lifesaving appliances, survival craft VHF radiotelephones, distress signals and SARTs as required and the necessary chocks, cradle, seating and support.	NLT
NLTP - 300	**6.8.2.2 594.2 Life Rafts**	
NLTP - 1562	Sufficient life rafts shall be fitted in accordance with the Regulatory Authority.	NLT
NLTP - 301	**6.8.2.3 594.4 Life Jackets**	

NLTP - 1565	Life Jackets shall comply with requirements of the TP14475E - Canadian Life Saving Appliance Standard.	NLT
NLTP - 302	**6.8.2.4 594.5 Life Buoys**	
NLTP - 1566	The NLT shall be fitted with Transport Canada approved ring type life buoys as required complete with self-igniting lights and lifelines. The life buoys shall be fitted in accessible positions and shall be capable of being readily cast loose.	NLT
NLTP - 1567	Life Buoys shall comply with requirements of the TP14475E - Canadian Life Saving Appliance Standard.	NLT
NLTP - 303	**6.8.2.5 594.6 Ship Abandonment Suits**	
NLTP - 1568	The NLT shall be fitted with ship abandonment suits and sufficient locker space for their stowage.	NLT
NLTP - 1569	Ship Abandonment Suits shall comply with requirements for immersion suits of the TP14475E - Canadian Life Saving Appliance Standard.	NLT
NLTP - 380	**7.1.1.1.1 602.1.1 Pennant Numbers**	
NLTP - 1585	The NLT pennant number, provided by Canada, shall be centre-punched in outline and painted in white on both sides of the NLT in accordance to General Hull Standard D-03-003-023/SF-001.	NLT
NLTP - 2103	Depending on the stern configuration, the pennant number may be required on the transom.	NLT
NLTP - 381	**7.1.1.1.2 602.1.2 Nameboards**	
NLTP - 1586	Nameboards shall be located on the superstructure port and starboard in accordance with General Hull Standard D-03-003-023/SF-001.	NLT
NLTP - 2104	Lifebuoys and rafts shall be marked with NLT name.	NLT
NLTP - 382	**7.1.1.1.3 602.1.3 Maple Leaf Insignia**	
NLTP - 1587	Two official eleven-point Red Maple Leaf Emblems cut from aluminium plate conforming to standard DND Drawing No. G-R-9-H02-0020051-01 and install the emblem in accordance with MARCORD NA-02 Maple Leaf Emblem Wearing By HMCS Ships and Auxiliary Vessels.	NLT
NLTP - 383	**7.1.1.1.4 602.1.4 Builder's Data Plaque**	
NLTP - 1588	A Builder's Data Plaque of a size agreed by Canada may be installed at a location agreed by Canada.	NLT

NLTP - 384	**7.1.1.1.5 602.1.5 Label Plates**	
NLTP - 1591	Label plates and markings for compartments, warning, ventilation, lifting appliances, piping, electrical cables etc shall be conformed to the Industry standard such as IEEE, ASTM etc.	NLT
NLTP - 2106	All required IMO Signs for means of escape and lifesaving equipment shall be fitted.	NLT
NLTP - 141	**7.1.2 603 Draft Marks**	
NLTP - 1593	Draft marks shall be installed prior to launching.	p
NLTP - 142	**7.1.3 604 Locks, Keys, Keyboards and Key Cabinets**	
NLTP - 305	**7.1.3.1 604.1 General**	
NLTP - 1600	Locks shall be provided for all doors, hatches, manholes, scuttles, and lockers.	NLT
NLTP - 1601	Locks with identical keys shall be provided for all furniture (Desks, Lockers, Bookcases.etc) assigned to each person occupying each cabin.	NLT
NLTP - 1602	Individual metal key tags and key rings shall be provided for all keys.	NLT
NLTP - 1603	Each key tag shall bear the compartment name and /or item identification.	NLT
NLTP - 1604	Three key sets for each lock shall be delivered with the NLT.	NLT
NLTP - 306	**7.1.3.2 604.2 Key Cabinets**	
NLTP - 1606	A lockable Key Cabinet shall be fitted in the Bridge and contain one copy of all keys provided with the NLT.	NLT
NLTP - 1607	A lockable Duplicate Key Cabinet shall be permanently mounted in the master’s cabin and contain two copies of all keys provided with the NLT.	NLT
NLTP - 46	**7.2 610 - SHIP FITTINGS**	
NLTP - 144	**7.2.1 611 Hull Fittings**	
NLTP - 307	**7.2.1.1 611.1 Hull Fendering**	
NLTP - 1616	Naval vessels fo the RCN Fleet require the tug load to be spread over a larger area of hull of the naval vessel than most commercial vessels. The fendering shall have sufficient softness, depth and footprint to prevent	p

	pressure indentation or structural damage of thin hulled naval ships/vessels when the NLT is pushing at full power.	
NLTP - 1617	The fendering shall be non-marking.	p
NLTP - 1618	To accommodate the movement of warships and submarines the fendering system shall extend 360° around the hull.	p
NLTP - 2108	Fendering shall extend vertically to cover all locations where the NLT is likely to come into contact with the vessel that the NLT is moving.	NLT
NLTP - 308	**7.2.1.2 611.2 Eye Plates/Bolts**	
NLTP - 1620	Eye plates and eye bolts shall be installed in quantity, location and capacity as necessary to support lashing down, rigging and stowing portable items, lifting machinery for maintenance and repair, provide attachment to rigging lines and facilitate shipping of stores.	NLT
NLTP - 1621	All eye plates and eye bolts shall have the safe working load plainly marked upon and shall be tested to at least twice the safe working load with no visible signs of permanent set in the eye plate or support.	NLT
NLTP - 1623	Chains, rings, hooks, shackles, swivels, pulley blocks, slings, and all other equipment used in hoisting shall be tested, marked and certified in accordance with the Regulatory Body requirements.	NLT
NLTP - 309	**7.2.1.3 611.3 Brow/Gangway**	
NLTP - 2222	The NLT shall have a stowable brow for personnel embarkation and disembarkation to a jetty, deployable from either the port or starboard side.	NLT
NLTP - 1626	The brow as rigged shall comply with the CSA Safe working Practices Regulations.	NLT
NLTP - 1628	Access points in gunwales for embarkation/debarkation shall be an inward opening gate capable of opening to 180 degrees.	NLT
NLTP - 1629	The brow shall be secured onboard in a location where it will not interfere with any operation.	NLT
NLTP - 146	**7.2.3 613 Rigging and Canvas**	
NLTP - 310	**7.2.3.1 613.1 Rigging**	

NLTP - 1646	Running rigging shall consist of four signal halyards of braided nylon with non-metallic blocks connected to the mast by galvanized shackles.	NLT
NLTP - 1647	Cleats shall be provided port and starboard for securing halyards.	NLT
NLTP - 311	**7.2.3.2 613.2 Protective Covers**	
NLTP - 1648	Suitable shaped protective covers shall be provided for rescue boat, searchlights, hawser, wire rope reels, fire monitors, AFFF canisters and other equipment requiring protection on weather deck.	NLT
NLTP - 1649	All protective covers shall be made of commercial marine grade coated polyester cloth, coloured to match the NLT.	NLT
NLTP - 1650	Lacing grommets, Velcro fastenings and chaffing pieces of leather to be fitted where required.	NLT
NLTP - 47	**7.3 620 - HULL COMPARTMENTATION**	
NLTP - 147	**7.3.1 621 Non-Structural Bulkheads**	
NLTP - 1651	Fire Protection shall be in accordance with TP 11469 Guide to Structural Fire Protection.	NLT
NLTP - 2111	Joiner linings and bulkheads shall be installed in accordance with the conditions described in the schedule attached to the Product Certificate of Approval.	NLT
NLTP - 149	**7.3.3 623 Ladders**	
NLTP - 312	**7.3.3.1 623.1 General**	
NLTP - 1665	Ladders shall be installed as necessary to provide access to all compartments, passages, and all operating parts of machinery and systems.	NLT
NLTP - 1666	Interior stairways, Rescue Boat, and life raft embarkation ladders, and pilot ladders shall be according to IMO Resolution MSC - 158(78), SOLAS.	NLT
NLTP - 150	**7.3.4 624 Non-Structural Closures**	
NLTP - 1684	Doors, weather tight, gas tight, fire rated doors and joiner doors (B-0 rated) shall be selected from TCMS Approved Products Catalogue Index.	NLT
NLTP - 1685	Doors shall be fitted with all necessary stainless steel locks, bolts, holdback hooks etc.	NLT
NLTP - 1687	Doors to washplaces and heads shall have locks provided with interior latching arrangements.	NLT

NLTP - 317	**7.3.5.2 625.2 Bridge Windows**	
NLTP - 1694	The Bridge shall be enclosed with windows around its full perimeter to provide 360 degree visibility.	p
NLTP - 1695	The windows shall be arranged to provide an unobstructed view in all directions from the BCC.	p
NLTP - 1696	The Bridge windows shall be large and wide and have direct access not blocked by consoles, tables or other equipment.	p
NLTP - 1697	Framing between bridge windows shall be kept to a minimum and not be installed immediately forward of the operator position to provide, to the maximum extent possible, an unobstructed panoramic view.	p
NLTP - 1698	To help avoid reflections in the interior, the bridge front windows shall be inclined from the vertical plane top out, at an angle of not less than 10° and not more than 25° in accordance with Transport Canada Ship Safety Bulletin.	NLT
NLTP - 1700	Sky ports shall be fitted to provide visibility above the NLT.	p
NLTP - 1701	To provide natural ventilation to the bridge, (2) of the windows, outboard (1) port and (1) starboard shall be of an opening type.	P
NLTP - 1702	All Bridge windows, excepting sky ports and opening windows, shall be electrically heated.	p
NLTP - 318	**7.3.5.3 625.3 Window Wipers/Washers**	
NLTP - 1704	The windows in the Bridge (wheelhouse) shall be provided with 120 Volt, heavy-duty window wipers of the vertical type.	p
NLTP - 1705	The wipers shall assure visibility in heavy rain or spray.	p
NLTP - 1707	One or more heated clearviews may be fitted on the bridge.	p
NLTP - 1708	A window washer system shall provide a spray pattern of anti-freeze treated water that will remove film of salt spray to all the windows.	p
NLTP - 48	**7.4 630 - PRESERVATIVES AND COVERINGS**	
NLTP - 152	**7.4.1 631 Painting**	
NLTP - 2291	All paints and coatings shall be applied in accordance with CFTO D-23-003-005/SF-002 Specification for Maintenance Painting of HMC Ships.	NLT

NLTP - 1711	The paints used in a given coating system shall be from the same manufacturer where practical.	NLT
NLTP - 2119	Each coat of paint shall be compatible with the coat of paint that it will cover, including pre-construction primers that are to be retained as part of the final coating system.	NLT
NLTP - 1714	To comply with Environment Canada Regulations, tributyltin (TBT) anti-fouling paint shall not be used to protect the NLTs.	NLT
NLTP - 1715	Only anti-fouling coatings registered under the Pest Control Products Act may be used.	NLT
NLTP - 153	**7.4.2 633 Cathodic Protection**	
NLTP - 1716	The NLT shall be fitted with a cathodic protection system to protect the submerged hull, propulsion system, appendages, bilges, sea chests and ballast tanks against corrosion and electrolysis.	p
NLTP - 1719	Anodes shall not be painted.	NLT
NLTP - 154	**7.4.3 634 Deck Covering**	
NLTP - 1723	All deck coverings shall provide a durable, seamless waterproof surface that provides a good foothold and can be easily maintained.	p
NLTP - 1725	Deck coverings shall be selected for the intended marine environment and installed as per the manufacturer's instructions.	NLT
NLTP - 1727	Steel decks shall be dry, clean and free from rust, grease, oil and other extraneous matter prior to deck covering installation.	NLT
NLTP - 1728	Deck coverings shall not be laid until after all deck penetrations and deck foundations for fastening machinery, equipment, furniture, etc. are installed.	NLT
NLTP - 1729	Deck covering shall not be painted to hide stains and discoloration.	NLT
NLTP - 1730	Preparation of surfaces, and use of underlayment for deck covering installation, shall be per the manufacturer's instructions.	NLT
NLTP - 1732	All deck coverings shall be thoroughly cleaned after finishing and “sealed” as recommended by deck coverings manufacturer.	NLT
NLTP - 2120	After installation the deck covering shall be protected to prevent any indentation or wear prior to delivery of the NLT.	NLT

NLTP - 2121	Exposed weather deck surface shall be coated with non-skid coating.	NLT
NLTP - 2122	Self-adhesive non-skid deck coverings shall not be used.	NLT
NLTP - 49	**7.5 640 - LIVING SPACES**	
NLTP - 157	**7.5.1 641 Berthing Spaces**	
NLTP - 319	**7.5.1.1 641.1 General**	
NLTP - 2236	Crew cabins shall meet the requirements of TC Towboat Crew Accommodation regulations and Canada Maritime Occupational Health and Safety Regulations.	NLT
NLTP - 158	**7.5.2 644 Sanitary Spaces and Fixtures**	
NLTP - 324	**7.5.2.1 644.1 General**	
NLTP - 2234	Washplaces/Toilet Spaces shall meet the requirements of TC Towboat Crew Accommodation regulations and Canada Maritime Occupational Health and Safety Regulations.	NLT
NLTP - 159	**7.5.3 645 Dining Leisure and Community Spaces**	
NLTP - 1800	A dining/recreation area compliant with the TC Towboat Crew Accommodation Regulations and Canada Maritime Occupational Health and safety Regulations shall be provided.	NLT
NLTP - 1801	A dining/recreation area, contiguous to the Galley, shall be provided for the crew. The dining/recreation area shall be fitted with upholstered settees and table(s) having a seating capacity for 6 crew.	NLT
NLTP - 1808	For the combined dining/recreation area an audio/visual entertainment cabinet shall be fitted with an HD television, Blue Ray player, Blue Ray storage, and stereo equipment.	NLT
NLTP - 1809	The dining/recreation area shall be outfitted for regional/global broadband connectivity: (SAT TV/Internet/DWAN/Phone).	NLT
NLTP - 50	**7.6 650 - SERVICE SPACES**	
NLTP - 160	**7.6.1 651 Commissary Spaces**	
NLTP - 1810	The Galley shall be equipped to allow the crew to prepare meals. The Galley shall consist of food storage	p

	spaces, food preparation area, cooking spaces, and a space for sanitary stowage of garbage and recyclables.	
NLTP - 2227	The Galley shall meet the requirements of TC Towboat Crew Accommodation regulations and Canada Maritime Occupational Health and Safety Regulations.	NLT
NLTP - 51	**7.7 660 - WORKING SPACES**	
NLTP - 162	**7.7.1 663 Electronics Control Centres Furnishings**	
NLTP - 329	**7.7.1.1 663.1 Bridge Configuration**	
NLTP - 1839	The size and layout of the Bridge shall accommodate normal operations.	p
NLTP - 1840	The Bridge shall be outfitted with navigational aids, communications and electronic equipment and the following: - Chart table fitted with drawers and lockers underneath; - Chart table lamp; - Flag locker; - Bridge Control Console (BCC) to suit installation of steering, navigation, and communication equipment and controls; - Machinery Control Console(MCC) to suit installation of alarm, machinery controls and indicators, and auxiliary machinery monitors and controls; - Firefighting Control Console (FCC); - Adjustable, swivelling chairs with sliding base for sitting or standing, (1) in way of each control console as applicable; - Clock and barometer; - Clinometer; - Magnetic compass located centreline; - Medical cabinet, including first aid kit; and - Stowage spaces for shapes, binocular boxes adjacent to helm position, lead lines.	p
NLTP - 1841	All bridge consoles and equipment shall be ergonomically designed and arranged in a harmonious layout.	p
NLTP - 1844	A separate Firefighting Control Console (FCC) may be fitted.	p
NLTP - 2209	The FCC shall be harmonized within the bridge layout and be non-obstructive to vessel control functions and line of sight while being operated.	p
NLTP - 385	**7.7.1.1.1 663.1.1 Bridge BCC and MCC**	

NLTP - 1846	The BCC shall be carefully laid out to accommodate instruments and controls for maximum convenience, visibility, and accessibility.	p
NLTP - 1848	A BCC shall be situated at or near the centre of the bridge. It shall be placed so that the master, when standing at the centreline can, as the first priority, control the NLT's thrust and steering and, as second priority, operate and monitor the primary navigation and communications equipment.	p
NLTP - 1849	While sitting at the BCC, the master shall be able to keep sight of the ship or vessel under tow as well as the NLT's own working decks while working the NLT in either forward or astern modes.	p
NLTP - 1850	While sitting at the BCC, the master shall be able to operate the NLT's propulsion controls, winch controls, primary radar and navigation systems, VHF radio communications, and ancillary controls.	p
NLTP - 1852	An MCC shall be fitted and arranged to allow the engineer to control and monitor the propulsion, electrical, and auxiliary systems for the NLT.	p
NLTP - 2211	The placement of the MCC shall not impede the master's vision or physical ability to move around for contolling and operating the tug.	p
NLTP - 1853	The MCC shall incorporate all gauges, instrumentation, and alarms required to fully monitor ship's propulsion system and auxiliaries.	p
NLTP - 1854	The BCC may comprise two or more co-located units to enable the watch officer to traverse through and around it.	p
NLTP - 386	**7.7.1.1.2 663.1.2 Bridge Swivel Chairs**	
NLTP - 1855	Adjustable, swivelling chairs with sliding bases shall be provided and fixed to the deck in way of the control consoles as required.	p
NLTP - 1856	The swivel chairs should be of sufficient height to permit the master to see the stem of the NLT while seated.	p
NLTP - 388	**7.7.1.1.4 663.1.4 Chart Table**	
NLTP - 1862	The chart table shall be located aft of the BCC.	NLT
NLTP - 1863	Stowage for navigation publications and items for chart work shall be incorporated into the chart table.	p
NLTP - 163	**7.7.2 665 Workshops, Labs and Test Areas**	

<table>
<tr><td>NLTP - 1866</td><td>A Workshop/Work area shall be provided in or near the machinery space.</td><td>p</td></tr>
<tr><td>NLTP - 1867</td><td>The Workshop/Work area shall be furnished with a workbench.</td><td>p</td></tr>
<tr><td>NLTP - 52</td><td>7.8 670 - STOWAGE SPACES</td><td></td></tr>
<tr><td>NLTP - 1875</td><td>Storerooms and stowage spaces including lockers, cupboard and drawers shall be fitted to provide stowage facilities for ship provisions, equipment or gear associated with the NLT’s function.</td><td>p</td></tr>
<tr><td>NLTP - 332</td><td>7.8.1.3 671.3 Wet Gear/Drying Locker</td><td></td></tr>
<tr><td>NLTP - 1886</td><td>The wet gear/drying locker shall be fitted with convenient access from the weather deck.</td><td>NLT</td></tr>
<tr><td>NLTP - 165</td><td>7.8.2 672 Storerooms and Issue Rooms</td><td></td></tr>
<tr><td>NLTP - 337</td><td>7.8.2.1 672.1 Provision Storeroom</td><td></td></tr>
<tr><td>NLTP - 2201</td><td>A provisions storeroom, with adequate holding down arrangements, shall be fitted with a volume to accommodate dairy, fruit, vegetable and dry goods stores requirements for (10) days of continuous underway duration for the full complement.</td><td>NLT</td></tr>
<tr><td>NLTP - 1899</td><td>The volume of stores is calculated from the following formula;
Volumetric Requirement = Space Factor x No. of Days x No. of Crew
Volume for provisions store shall be based on space factors as outlined in the table below.
<table>
<tr><td>Category</td><td>Storeroom</td><td>Space Factor (per crew/day)</td></tr>
<tr><td rowspan="3">Provision</td><td>Dry</td><td>0.76552 m³</td></tr>
<tr><td>Fridge</td><td>0.85592 m³</td></tr>
<tr><td>Freezer</td><td>0.38124 m³</td></tr>
</table></td><td>NLT</td></tr>
<tr><td>NLTP - 338</td><td>7.8.2.2 672.2 Deck Stores</td><td></td></tr>
<tr><td>NLTP - 1900</td><td>Deck stores shall be provided with all necessary shelves, bins, and stowage racks for the stowage of, as a minimum, mooring and towing hawsers and other ropes, spare mooring gear, rope reels, scramble net, and Jacob’s Ladder.</td><td>p</td></tr>
<tr><td>NLTP - 1901</td><td>Deck Stores shall be directly accessible from the weather deck.</td><td>P</td></tr>
<tr><td>NLTP - 340</td><td>7.8.2.4 672.4 Spare Parts Store</td><td></td></tr>
</table>

NLTP - 1907	A storage shall be fitted to facilitate stowage of machinery spare parts and supplies to support at-sea operations for 10 days.	NLT
NLTP -8	**8 GROUP 7 - ARMAMENT**	
NLTP - 53	**8.1 760 - SMALL ARMS AND PYROTECHNICS**	
NLTP - 166	**8.1.1 761 Small Arms and Pyrotechnics Stowage**	
NLTP - 1910	A pyrotechnics stowage locker shall be provided in accordance with TC, SOLAS and Classification Society requirements.	NLT

ANNEX G

BID EVALUATION MATRICES

FOR THE

NAVAL LARGE TUG PROJECT

TABLE OF CONTENTS

1.0 MANDATORY EVALUATION CRITERIA

1.1 The Bidder's proposal must address all mandatory evaluation criteria and must include information and/or documentation to fully support the bidder's response and support compliance so that it may be fairly evaluated in relation to the stated requirements.

1.2 The information provided must be complete, concise and clearly demonstrate that the Bidder meets the stated mandatory requirements. Where specific objective evidence is indicated in the tables to prove compliance with an evaluated criterion, the Bidder must provide that evidence within their bid proposal. Where drawings are required as objective evidence, the Bidder must include a hard copy of the drawing that is legible and provided on a minimum 11 inch x 17 inch standard size sheet.

1.3 In order to substantiate their compliance to each criterion, the Bidder should indicate where the supporting information can be found in their proposal by completing the tables contained in Appendix A – Mandatory Evaluation Criteria. The Bidder should refer to the supporting documents within their Bid, with the exact page number(s) and paragraph number(s) where the required substantiation can be found. Each criterion should be addressed separately and should be presented in order of the evaluation criteria to facilitate the evaluation process.

1.4 For the Technical Bid (Section I), as part of their proposal, the Bidder must meet the criteria outlined in the following Tables;

Appendix A - Mandatory Evaluation Criteria – Technical Bid (Section I)

Table 1 - Technical Compliance Matrix; and

Table 2 - Technical Bid Evaluation Matrix

1.5 For the Management Bid (Section II), as part of their proposal, the Bidder must meet the criteria outlined in the following Tables;

Appendix A – Mandatory Evaluation Criteria – Management Bid (Section ll)

Table 3 - Boat Construction Experience; and

Table 4 - Other Requirements

2.0 TECHNICAL POINT RATED EVALUATION CRITERIA

2.1 Bids meeting ALL Mandatory Evaluation Criteria will be evaluated against the Technical Point Rated Evaluation Criteria.

2.2 Bidders should submit with their proposal all necessary information such that the evaluation team can make a clear determination as to the Bidder's understanding of the requirement and capability to perform the work. Where specific objective evidence is indicated in the tables to prove compliance with an evaluated criterion, the Bidder should provide that evidence within their bid proposal. Where drawings are provided as objective evidence, the Bidder must include a hard copy of the drawing that is legible and provided on a minimum 11 inch x 17 inch standard size sheet.

2.3 For the Technical Point Rated Evaluation Criteria the overall maximum technical points achievable is 222 points. To be considered compliant with the Technical Point Rated Evaluation Criteria, the bidder must achieve the minimum points as indicated in the Table below. Bids that do not meet the minimum points required for any of the categories of Technical Point Rated Evaluation Criteria will be considered non-compliant and given no further consideration.

Technical Point Rated Evaluation Criteria			
Category		**Total Possible Points**	**Minimum Points Required**
1	Vessel Technical Requirements	60	0
2	Boat Construction Experience	30	10
3	Construction Infrastructure and Facilities	12	8
4	Project Management Team	30	18
5	Project Management Plan	30	20
6	Master Plan and Schedule	30	20
7	Quality Plan	30	20
	TOTAL POINTS	222	

2.4 In order to substantiate their compliance to each criterion, the bidder should refer to the supporting documents within their technical proposal, with the exact page number(s) and paragraph number(s) where the required substantiation can be found. The Bidder should indicate where the supporting information can be found in their proposal by completing the tables contained in Appendix B – Technical Point Rated Evaluation Criteria.

2.5 Each of the seven (7) categories of criteria listed in paragraph 2.3 have associated elements detailed in the tables located in Appendix B – Technical Point Rated Evaluation Criteria.

2.6 For the Technical Bid (Section I), as part of their proposal, the Bidder should meet the criteria outlined in the following tables:

Appendix B – Technical Point Rated Evaluation Criteria – Technical Bid (Section l)

Table 5 – Vessel Technical Requirements

2.7 For the Management Bid (Section II), as part of their proposal, the Bidder should meet the criteria outlined in the following tables:

Appendix B – Technical Point Rated Evaluation Criteria – Management Bid (Section ll)

Table 6 - Boat Construction Experience
Table 7 - Construction Infrastructure and Facilities
Table 8 - Project Management Team
Table 9 - Project Management Plan
Table 10 - Master Plan and Schedule
Table 11 - Quality Plan

2.8 The Total Technical Points achieved by an individual Bidder in Appendix B will be used to calculate the Technical Points of the Total Points Score.

2.9 Category (1) Vessel Technical Requirements: The Bidder should supply objective evidence with their proposal to demonstrate how each of the requirements described in Appendix B, Table 5 are met by the Proven Parent In-Service Vessel proposed by the Bidder. No partial points will be awarded for any of the criteria contained in this Category.

2.10 Category (2) Boat Construction Experience: The Bidder should provide objective evidence that it has a proven capability in the construction of boats of similar complexity as described in Appendix B, Table 6. No partial points will be awarded for any of the criteria contained in this Category.

2.11 Category (3) Construction Infrastructure and Facilities: The Bidder should provide objective evidence that it has the construction infrastructure and facilities necessary to construct the Naval Large Tugs as described in Appendix B, Table 7. No partial points will be awarded for any of the criteria contained in this Category.

2.12 Category (4) Project Management Team: The Bidder's proposal should provide evidence and demonstrate that the individuals put forward meet the listed criteria for the respective position described in Appendix B, Table 8. No partial points will be awarded for any of the criteria contained in this Category.

Bidders are advised that only listing experience without providing any supporting data to describe responsibilities, duties and relevance to the requirements, or reusing the same wording as the RFP, will not be considered “demonstrated” for the purpose of this evaluation.

The bidder should provide complete details as to where, when (month and year), how (through which activities and/or responsibilities), the stated qualifications and experience were obtained. Experience gained during formal education will not be considered work experience. For each curriculum vitae submitted, the Bidder must ensure that:

a. The applicable project management organizational role and the individual's name are clearly indicated;
b. The starting and finishing date of the experience (month and year) are clearly indicated;
c. The name of the employer/institution as well as the position/title held by the individual during the period of the experience are clearly indicated;
d. Name of the organization / project the service was provided for (if outside of the employer / institution) are clearly indicated; and
e. A brief summary description of the experience(s) and project(s) including activities performed and the responsibilities assigned to the individual during this period.

Bidders are advised that month(s) of experience listed for a project whose time frame overlaps that of another referenced project will only be counted once. For example: Project 1 time frame is July 2001 to December 2001; Project 2 time frame is October 2001 to January 2002; the total months of counted experience for these two project references is seven (7) months.

The curriculum vitae should be provided following the format set out in Appendix F – CURRICULUM VITAE FORMAT.

2.13 Category (5) Project Management Plan: The Bidder should include a draft document prepared in accordance with Data Item Deliverable (DID) DID-M-001 of the SOW at Annex A of the RFP.

The Bidder’s proposal should address those criteria listed in Appendix B, Table 9. Each element provided by the bidder for the Project Management Plan will be evaluated against the following:

a. Comprehension of the element;
b. Level of detail and description of each element; and
c. The quality, logic and clarity of presentation.

A weight value will be assigned to each element following review of the Bidder’s submitted proposal, as shown in the table below. The weight value will then be

multiplied by the maximum available points for the particular element to obtain a Technical Points score.

	Weight value
Exceptional - The Bidder has submitted a superior description of the element. The details are complete and demonstrate the Bidder has a full understanding of the element. All areas are thoroughly addressed. There are no apparent weaknesses that would affect the achievement of the work associated with this element.	1
Acceptable - The Bidder has submitted an adequate description of the element. The details are sufficient and demonstrate the Bidder's understanding of the element. All areas are addressed.	0.7
Unacceptable - The Bidder has submitted a weak description of the element. The proposal does not demonstrate that the requirement is understood and there are weaknesses that would affect the achievement of the work associated with this requirement.	0

2.14 Category (6) Master Plan and Schedule: The Bidder should include a draft document prepared in accordance with DID-M-002 of the SOW at Annex A of the RFP.

The Bidder's proposal should address those criteria listed in Appendix B, Table 10. Each element provided by the bidder for the Master Plan and Schedule will be evaluated against the following:

a. Comprehension of the element;
b. Level of detail and description of each element; and
c. The quality, logic and clarity of presentation.

A weight value will be assigned to each element following review of the Bidder's submitted proposal, as shown in the table below. The weight value will then be multiplied by the maximum available points for the particular element to obtain a Technical Points score.

	Weight value
Exceptional - The Bidder has submitted a superior description of the element. The details are complete and demonstrate the Bidder has a full understanding of the element. All areas are thoroughly addressed. There are no apparent weaknesses that would affect the achievement of the work associated with this element.	1
Acceptable - The Bidder has submitted an adequate description of the element. The details are sufficient and demonstrate the Bidder's understanding of the element. All areas are addressed.	0.7
Unacceptable - The Bidder has submitted a weak description of the element. The proposal does not demonstrate that the requirement is understood and there are weaknesses that would affect the achievement of the work associated with this requirement.	0

2.15 Category (7) Quality Plan: The Bidder should include a draft document prepared in accordance with DID-M-003 of the SOW at Annex A of the RFP.

The Bidder's proposal should address those criterion listed in Appendix B, Table 11. Each element provided by the bidder for the Quality Plan will be evaluated against the following:

a. Comprehension of the element;
b. Level of detail and description of each element; and
c. The quality, logic and clarity of presentation.

A weight value will be assigned to each element following review of the Bidder's submitted proposal, as shown in the table below. The weight value will then be multiplied by the maximum available points for the particular element to obtain a Technical Points score.

	Weight value
Exceptional - The Bidder has submitted a superior description of the element. The details are complete and demonstrate the Bidder has a full understanding of the element. All areas are thoroughly addressed. There are no apparent weaknesses that would affect the achievement of the work associated with this element.	1
Acceptable - The Bidder has submitted an adequate description of the element. The details are sufficient and demonstrate the Bidder's understanding of the element. All areas are addressed.	0.7
Unacceptable - The Bidder has submitted a weak description of the element. The proposal does not demonstrate that the requirement is understood and there are weaknesses that would affect the achievement of the work associated with this requirement.	0

3.0 FINANCIAL EVALUATION CRITERIA

3.1 For the Financial Bid (Section III), as part of their proposal, the Bidder must meet the criteria outlined in the following tables. In order to substantiate their compliance, the Bidder should complete the following tables to indicate where in their bid the supporting information can be found;

Appendix C – Financial Evaluation Criteria – Financial Bid (Section lll) in a separately bound folder.

Table 12 - Financial Bid Evaluation Matrix

The Financial Bid must not be attached to or combined within any other part of the bid and prices must not appear in any other area of the proposal other than the Financial Bid.

4.0 CERTIFICATIONS AND OTHER REQUIREMENTS EVALUATION CRITERIA

4.1 In accordance with the requirements in Parts 5 and 6 of the RFP, the Bidder must meet the criteria outlined in the following tables.

For the Certifications Bid (Section IV), as part of their proposal, in order to substantiate their compliance, the Bidder should complete the following tables to indicate where in their bid the supporting information can be found;

Appendix D – Certifications and Other Requirements Evaluation Criteria – Certifications Bid (Section IV)

Table 13 – Security, Financial and Other Requirements; and

Table 14 – Certification Bid Evaluation Matrix

Appendix A - Mandatory Evaluation Criteria - Technical Bid (Section I)

Table 1 - Technical Compliance Matrix

SRD Reference Number	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to prove compliance	Comments / Remarks	Canada's Evaluation	
					Demonstrated Compliance Yes / No	
The Technical Compliance Matrix lists all the Technical Mandatory Requirements that have been selected from the System Requirements Document (Annex A SRD and SOW of the RFP), which are required to exist in the Proven Parent In-Service Vessel, for mandatory evaluation purposes. **The definition of the Proven Parent In-Service Vessel is provided in Annex A SRD and SOW of the RFP.**						
NLTP-422	The Proven Parent In-Service Vessel must be fitted with the requisite equipment to conform to Firefighting Vessel 1 (FFV 1) or equivalent notation of a Regulatory Body.		Classification Society Certificate; and Classification Society approved drawings and a description of the fitted equipment to demonstrate the FFV 1 or equivalent notation			
NLTP-445	The Proven Parent In-Service Vessel full load draught must not exceed 6m.		Classification Society approved drawing (clearly annotating the draft numerically)			

SRD Reference Number	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to prove compliance	Comments / Remarks	Canada's Evaluation	
					Demonstrated Compliance Yes / No	
NLTP-448	The Bollard Pull of the Proven Parent In-Service Vessel must be sufficient for two of them to be able to cold move a JSS-sized ship in the confines of Halifax and Esquimalt harbours, in sustained winds of 25 knots from any direction and in currents of up to 2 knots in any direction.		Bollard Pull calculation for the Proven Parent In-Service Vessel; and Trials report for Proven Parent In-Service Vessel to demonstrate the cold move capability; and Classification Society Bollard Pull test results for the Proven Parent In-Service Vessel			
NLTP-1974	The JSS notional particulars are as follows; - 210m length with 25,200 tonne displacement; - Estimated wind area above the design waterline 3,500m2 - Estimated underwater area below design waterline 1,450m2	FOR REFERENCE IN SUPPORT OF NLTP-448				

SRD Reference Number	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to prove compliance	Comments / Remarks	Canada's Evaluation	
					Demonstrated Compliance Yes / No	
NLTP-451	The Proven Parent In-Service Vessel must have seamless, uninterrupted, thrust vectors when changing the thrust direction through a full 360 degrees.		Trials report for performance verification of Proven Parent In-Service Vessel			
NLTP-452	The Proven Parent In-Service Vessel must have the ability to turn itself on its own position ("on the spot") without creeping, or scribing an arc through the water in 25 knot winds and 2 knot current acting in any direction.		Trials report for performance verification of Proven Parent In-Service Vessel			
NLTP-453	The Proven Parent In-Service Vessel must have the ability to manoeuvre sideways ("sidestepping") along a line of bearing, on any axis, with the operator having simultaneous and continuous control over the NLT's heading, headway and sternway.		Trials report for performance verification of Proven Parent In-Service Vessel			
NLTP-490	The NLT must have a minimum of two (2) propulsion units that are each capable of providing 360 degrees of vectored thrust.		System description and drawings for Proven Parent In-Service Vessel to demonstrate compliance			

SRD Reference Number	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to prove compliance	Comments / Remarks	Canada's Evaluation	
					Demonstrated Compliance Yes / No	
NLTP-460	The Proven Parent In-Service Vessel must achieve a minimum free-running speed of 12 knots in a fully loaded, deep departure condition, in calm water.		Trials report for performance verification of Proven Parent In-Service Vessel			
NLTP-463	The Proven Parent In-Service Vessel must have a Range of not less than 1500 nautical miles (NM) at a transit speed of 10 knots for propulsion engines, generators, and the corresponding equipment for ship's operation in Sea State 2 at 0°C ambient air temperature with the fuel capacity determined from the difference between 95% Full Departure and 10% Arrival conditions.		Speed, power, range and endurance report or endurance calculation for Proven Parent In-Service Vessel			
NLTP-1810	The Galley must be equipped to allow the crew to prepare meals. The Galley must consist of food storage spaces, food preparation area, cooking spaces, and a space for sanitary stowage of garbage and recyclables.		Galley arrangement and detail drawing(s)			
NLTP-467	The Proven Parent In-Service Vessel must have the fresh water storage capacity and the required pumps and fittings to be able to transfer a minimum		Tank Capacity Plan			

SRD Reference Number	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to prove compliance	Comments / Remarks	Canada's Evaluation	
					Demonstrated Compliance Yes / No	
	of 10 tonnes of potable water, from its own storage tanks, to the DRDC research barge (YR494) and ships/vessels within close proximity of Esquimalt or Halifax harbours per visit.					
NLTP-475	As a minimum, the Proven Parent In-Service Vessel must accommodate the following compartments and lockers: - Bridge; - Deck Store; - Wet Gear/ Drying Locker; - Garbage Store; - Galley; - Dining/Recreation Area to seat (6) crew in (1) sitting; - Cabins for (6) crew (as per Transport Canadian Towboat Regulations) with no less than (2) single cabins and no more than (2) crew in any cabin; - Gender neutral Washplace / Toilet Space (1); - Chain Locker; - Provisions Store; and		General Arrangement drawing with the following compartments and lockers labelled and identified: - Bridge; - Deck Store; - Wet Gear/ Drying Locker; - Garbage Store; - Galley; -Dining/Recreation Area to seat (6) crew in (1) sitting; - Cabins for (6) crew (as per Transport Canadian Towboat Regulations) with no less than (2) single			

SRD Reference Number	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to prove compliance	Comments / Remarks	Canada's Evaluation	
					Demonstrated Compliance Yes / No	
	- Engine Room		cabins and no more than (2) crew in any cabin; - Gender neutral Washplace / Toilet Space (1); - Chain Locker; - Provisions Store; and - Engine Room			

Table 2 - Technical Bid Evaluation Matrix

Description of Mandatory Requirement Technical Bid	**Submitted Reference with page and paragraph number**	**Comments / Remarks**	**Canada's Evaluation**	
			Demonstrated Compliance Yes / No	
a. Proven Parent Design Information As a minimum, the following technical information with reference to the Proven Parent Design must be submitted; 1) Build specification, construction drawings (Classification Society approved design drawings) and a major equipment list (identifying all the major components of the propulsion system, electrical power and generation system, auxiliary systems, deck equipment and towing equipment); 2) General Arrangement drawing (Classification Society approved); 3) Trim and Stability Manual; 4) Trials Report containing a minimum of speed and power curve; 5) Major structural construction plans; 6) Fuel Consumption and Endurance Calculations; and 7) Tank Plan and Capacities. **The definition of the Proven Parent Design is provided in Annex A SRD and SOW of the RFP.**				
Build specification, construction drawings (Classification Society approved design drawings), major equipment list				
General Arrangement drawing (Classification Society approved)				
Trim and Stability Manual				
Trials Report				

Description of Mandatory Requirement Technical Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
Speed / Power Curve				
Vessel Major Structural Plans				
Fuel Consumption and Endurance Calculations				
Tank Plan and Capacities				

b. Proven Parent In-Service Vessel

The Bidder must provide the following information with respect to the Proven Parent In-Service Vessel;

1.) Owner contact information: name of company, name of point of contact;
2.) Operator contact information, if different than owner: name of operating company, name of point of contact;
3.) Name of vessel and IMO hull number, as applicable;
4.) Vessel location: Country, City, port of operation, as applicable;
5.) Copy of Classification Society Certificate;
6.) Proof that the vessel was built in the last 10 years;
7.) Proof that the vessel has a minimum of a 1000 operating hours;
8.) Proof that the vessel has been operating successfully in a coastal maritime environment.
9.) Proof that the vessel has known and documented hydrodynamic and maneuvering characteristics capable of being demonstrated by sea trials; and
10.) Proof that the vessel is situated in a location that is not under a Government of Canada Travel Advice and Advisories notice of the level "avoid non-essential travel" or higher for the country or the region of the country in which the vessel is located.

The definition of the Proven Parent In-Service Vessel is provided in Annex A SRD and SOW of the RFP.

Description of Mandatory Requirement Technical Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
1.) Owner contact information demonstrated by providing the following: name of company; and name of point of contact				
2.) Operator contact information demonstrated by providing the following: name of operating company; and name of point of contact				
3.) Name of vessel and IMO hull number				
4.) Vessel location demonstrated by providing the following: Country of operation; and City of operation; and Port of operation				
5.) Copy of Classification Society Certificate provided for the vessel				
6.) Proof that the vessel was built in the last 10 years demonstrated by providing the following; Contract Award date for vessel build				

Description of Mandatory Requirement Technical Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
contract; and Name of shipyard awarded contract; and Date of first steel cutting for the vessel.				
7.) Proof that the vessel has a minimum of a 1000 operating hours demonstrated by providing a statement from vessel operator to indicate vessel meets the minimum 1000 hours of operation.				
8.) Proof that the vessel has been operating successfully in a coastal maritime environment demonstrated by providing the vessel port (s) of operation since the vessel entered service.				
9.) Proof that the vessel has known and documented hydrodynamic and maneuvering characteristics capable of being demonstrated by sea trials demonstrated by providing a copy of the sea trials report for the vessel.				
10.) Proof that the vessel is situated in a location that is not under a Government of Canada Travel Advice and Advisories notice of the level "avoid non-essential travel" or higher for the country or the region of the country in which the vessel is located demonstrated by				

Description of Mandatory Requirement Technical Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
providing a statement from the vessel Owner/Operator indicating the vessel country of operation at time of RFP release.				
c. Letter of Attestation – Proven Parent In-Service Vessel Inspection Availability The Bidder must provide, with their bid package, a signed copy of the Letter of Attestation of Proven Parent In-Service Vessel Inspection Availability located at Appendix E in this Annex. The letter must be signed by the Bidder's representative and the Proven Parent In-Service Vessel Owner's representative.				
Letter of Attestation in accordance with Appendix E of this Annex				

Appendix A - Mandatory Evaluation Criteria - Management Bid (Section II)

Table 3 - Boat Construction Experience

Description of Mandatory Requirement Technical Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
a. Boat Construction Experience The Bidder must provide objective evidence that it has a proven capability in the construction of boats of similar complexity to the subject of this RFP, by providing an example of such a boat it has built within the last fifteen (15) years. For the purpose of this evaluation, the term *similar complexity* is defined in terms of a vessel that has been constructed with all the following systems: a. 3 phase electrical distribution system; b. Black water and grey water systems; and c. A minimum of 2000kW installed propulsion power. If the Bidder is a joint venture, the requirement for Boat Construction Experience must be met by the member of the joint venture who will construct the "Work" as detailed in the Systems Requirements Document attached within Annex "A" of the RFP. Description of the Bidder's boat construction experience must include details sufficient to evaluate the described experience with reference to the following elements: a. Contract Data – Indicate when the contract was awarded and the client name; b. Vessel Type – Describe the details of the type of ship with sufficient information to demonstrate the vessel is of similar complexity by objectively addressing the three systems described above; and c. Documentation – Include a hard copy of the General Arrangement drawing for the vessel; the drawing must be legible and must be provided on a minimum 11 inch x 17 inch standard size sheet.				
Contract Data: Date of contract award; and Client Name				

Description of Mandatory Requirement Technical Bid	**Submitted Reference with page and paragraph number**	**Comments / Remarks**	**Canada's Evaluation**	
			Demonstrated Compliance Yes / No	
Vessel type with sufficient information to demonstrate the vessel is of similar complexity				
General Arrangement drawing				

Table 4 - Other Requirements

Description of Mandatory Requirement Technical Bid	**Submitted Reference with page and paragraph number**	**Comments / Remarks**	**Canada's Evaluation**	
			Demonstrated Compliance Yes / No	
a. Subcontractors List *A list in the form of the attached Annex "C" of the RFP, of subcontractors for labour and / or material must be included with the Bidder's Proposal, stating the name and address of each subcontractor, and a description (Make, Model No.) of the goods or services to be supplied by each.*				
Subcontractors List in accordance with Annex "C" of the RFP				
b. Contractor Quality Management System *The Bidder must also provide a minimum of one (1) sample of completed quality records used by the Bidder on the most recent marine boat construction at its facility.*				
One (1) sample of completed quality records used by the Bidder on the most recent marine boat construction at its facility.				
c. Shipyard Location *The Bidder performing the Work must be a shipyard geographically located in Canada.*				
Submit a picture from Google Maps showing the longitude and latitude of the shipyard geographically located in Canada and provide the municipal address				

Description of Mandatory Requirement Technical Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
for the shipyard.				

Appendix B – Technical Point Rated Evaluation Criteria – Technical Bid (Section I)

Table 5 - Vessel Technical Requirements
Maximum Score for Category = 60 points
Pass Score = 0 points

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
The Vessel Technical Requirements table lists the Technical Requirements (TR-01 to TR-20 listed below) for the Naval Large Tugs that have been selected for point rated evaluation purposes.						
TR-01-416	The NLT should have American Bureau of Shipping ACCU or the equivalent notation from another Classification Society recognized under Transport Canada's Delegated Statutory Inspection Program.		Classification Society Certificate (clearly indicating equivalents)		3	
TR-02-478	The NLT should have suitable arrangements to embark/disembark a pilot between the NLT and a warship when the NLT and vessel are underway at 5 knots or less and the NLT is against the side of the warship.		Description and drawing of pilot transfer arrangement; Description of operating procedure for pilot ladder.		3	
TR-03-519	The NLT should be supplied with all lifesaving and safety equipment necessary to meet TC, SOLAS, and Classification Society requirements.		Lifesaving and safety equipment key plan (Classification Society approved)		3	

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
TR-04-541	Power train, essential auxiliaries and control equipment should be selected from among models currently in production, and are available in North America with proven logistical support chains (sales offices, warehousing spares, and field service representatives) already established and currently operating in Canada.		Major equipment list (identifying all the major components of the propulsion system, electrical power and generation system, auxiliary systems, deck equipment and towing equipment); and proof of current model production and availability; and proof of North American logistical support chain		3	
TR-05-566	Emergency stops for the machinery plant should be located in the following places: - on the Bridge Control Console; - on the Machinery Control Console; - on the engine control panels in the engine room; and - outside the engine room door(s), at a prominent, rapidly accessible location.		Description of system features and console drawing(s) and compartment arrangement drawing(s) showing locations		3	

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
TR-06-2225	The NLT should have the fresh water storage capacity and the required pumps and fittings to be able to transfer a minimum of 20 tonnes of potable water, from its own storage tanks, to the DRDC research barge (YR494) and ships/vessels within close proximity of Esquimalt or Halifax harbours per visit.		Tank Capacity Plan		3	
TR-07-479	The NLT should have at least one point of through-access on each of the port and starboard sides of the gunwales to enable the placement of a gangway to provide for safe access between the NLT and shore or between other vessels berthed alongside via the brow/gangway.		Drawings showing location and detail arrangements of through-access.		3	
TR-08-420	The NLTs should meet the requirements of MARPOL.		Description as to how the vessel system and equipment meet MARPOL		3	
TR-09-419	Accommodation and work spaces should comply with the Canada Labour Code, Maritime Occupational Health and Safety Regulations and TC Towboat Crew Accommodation Regulations.		Description of compliance and applicable drawings which demonstrate compliance to regulations		3	

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
TR-10-502	The generators should be compliant with current IMO environmental standards for Marine Diesel Engines. As a minimum the engines shall be Tier III compliant.		Description of equipment and explanation to demonstrate compliance with the regulation		3	
TR-11-1496	Each NLT should have a Rescue Boat with outboard motor. The Rescue Boat shall: - be SOLAS certified for the full crew; - be used to recover persons overboard, to shepherd the tug's life rafts.		Description of equipment and explanation to demonstrate compliance with the regulation; and Drawing(s) of equipment		3	
TR-12-1163	A Differential Global Positioning System (DGPS), satellite navigation should be provided.		Description of system and equipment fitted on the vessel and the applicable drawing(s) to demonstrate compliance		3	
TR-13-1167	The NLT should be fitted with an Electronic Chart Display and Information System (ECDIS) or		Description of system and equipment fitted on		3	

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
	equivalent.		the vessel and the applicable drawing(s) to demonstrate compliance			
TR-14-2032	A waterproof flag locker, with routinely used signal flags and shapes in accordance with COLREGS should be situated near the halyards.		Drawing(s) and details of the flag locker to demonstrate compliance		3	
TR-15-1910	A pyrotechnics stowage locker should be provided in accordance with TC, SOLAS and Classification Society requirements.		Description of compliance to regulations; and Drawing showing location and locker details.		3	
TR-16-1445	The deck crane should be electro-hydraulically operated, be able to reach the main working deck, and have sufficient reach to: - deploy fuel spill response equipment over the gunwales; and - be capable of loading and off-loading light cargo when the NLT is alongside dock, and		Description of crane and drawing(s) to demonstrate compliance		3	

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
	- launch and recover the NLT's Rescue Boat.					
TR-17-1666	Interior stairways, Rescue Boat, and life raft embarkation ladders, and pilot ladders should be according to IMO Resolution MSC - 158(78), SOLAS.		Description of equipment and drawings to demonstrate compliance		3	
TR-18-805	The NLT should have a First-aid station furnished with first-aid supplies and equipment in accordance with the Marine Occupational Safety and Health Regulations and TC requirements, conveniently located in the superstructure.		Description of first-aid station and drawing(s) to demonstrate compliance		3	
TR-19-2220	The NLT should be equipped with ship station and radio equipment for a Global Maritime Distress and Safety System (GMDSS) for Sea Area 1.		Description of system compliance		3	
TR-20-1055	Uninterruptible Power Supplies (UPS) should be provided for essential systems, including: BCC, general alarm and public address systems, fitted VHF radio, fire detection/extinguishing and alarm		Description of system and equipment and drawing(s) to demonstrate compliance		3	

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
	systems, emergency lighting, and other vital systems such as machinery control and communications in accordance with TP 127E.					

Appendix B – Technical Point Rated Evaluation Criteria – Management Bid (Section II)

Table 6 - Boat Construction Experience
Maximum Score for Category = 30 points
Pass Score = 10 points

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
The Bidder should provide objective evidence that it has a proven capability in the construction of boats of similar complexity to the subject of this RFP, by providing up to three examples of such boats it has built within the last fifteen (15) years. For the purpose of this evaluation, the term similar complexity is defined in terms of a vessel that has been constructed with all the following systems; a. 3 phase electrical distribution system; b. black water and grey water systems; and c. a minimum of 2000kW installed propulsion power. For the purposes of this evaluation, construction projects where more than one boat was built under the same project will only be counted as a single project. For example, a project to construct five 15m boats counts as one construction project, not five. The vessel construction project submitted in response to the Mandatory Evaluation Criteria may be used for the Technical Point Rated Evaluation. If the Bidder is a joint venture, the requirement for Boat Construction Experience must be met by the member of the joint venture who will construct the "Work" as detailed in the Systems Requirements Document attached within Annex "A" of the RFP. Description of the Bidder's boat construction experience should include details sufficient to evaluate the described experience with reference to the following elements: a. Contract Data – Indicate when the contract was awarded and the client name; b. Vessel Type – Describe the details of the type of ship with sufficient information to demonstrate the vessel is of similar complexity; and						

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
c. Documentation – Include a hard copy of the General Arrangement drawing for the vessel; the drawing must be legible and must be provided on a minimum 11 inch x 17 inch standard size sheet.						
Boat Example 1			Contract Data; and Vessel Type and description; and General Arrangement drawing		10	
Boat Example 2			Contract Data; and Vessel Type and description; and General Arrangement drawing		10	
Boat Example 3			Contract Data; and Vessel Type and description; and General Arrangement drawing		10	

Table 7 - Construction Infrastructure and Facilities
Maximum Score for Category = 12 points
Pass Score = 8 points

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
The Bidder should provide objective evidence that it has the required construction infrastructure and facilities it requires to construct the Naval Large Tugs by including a description of their facilities and how these will suffice for the NLT project. The Bidder should demonstrate their Construction Infrastructure and Facilities by: a. Providing a description of its facility's current or intended capability, supported by photographs, drawings, and manuals as required, to meet the requirements of the subject RFP; and b. Providing evidence in the form of a description of the suitability of its intended facility and/or resources with respect to construction of the Naval Large Tugs for each of the criteria listed below.						
Construction Infrastructure and Facilities	The Bidder should provide objective evidence that it has the required construction infrastructure and facilities to construct the Naval Large Tugs by including a description of their facilities, and providing how these will suffice for the project.		Warehousing description		1	
			Warehousing suitability		1	
			Materials preparation Description		1	
			Materials preparation suitability		1	
			Welding capability description		1	
			Welding capability		1	

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
			suitability			
			Cranage description		1	
			Cranage suitability		1	
			Outfit and furnishings capability description		1	
			Outfit and furnishings capability suitability		1	
			Launching capability description		1	
			Launching capability suitability		1	

Table 8 - Project Management Team
Maximum Score for Category = 30 points
Pass Score = 18 points

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
The Bidder should submit in their proposal details of their Project Management Organization. The Project Management Organization should consist of the following roles: a) Project Manager b) Engineering Manager c) Lead Marine Engineer d) Lead Naval Architect e) Draftsperson The Bidder should submit curriculum vitae for one (1) candidate, must be unique, for each of the categories of personnel listed above.						
Project Manager	The Project Manager (PM) must have a minimum of 60 months experience in a project management role in the last 120 months for marine projects.		Curriculum vitae of Project Manager included with all required detail		6	
Engineering Manager	The Engineering Manager (EM) must be a Professional Engineer registered to practice in the province where the engineering office is located. The Engineering Manager should possess a minimum of 120 months of demonstrated professional		Curriculum vitae of Engineering Manager included with all required detail		6	

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
	marine work experience in engineering within the last 180 months.					
Lead Marine Engineer	The Lead Marine Engineer must have a minimum of 60 months experience in a lead marine engineering role within the last 120 months for ship construction projects.		Curriculum vitae of Lead Marine Engineer included with all required detail		6	
Lead Naval Architect	The Lead Naval Architect must have a minimum of 60 months experience as a lead naval architect within the last 120 months in ship construction projects.		Curriculum vitae of Lead Naval Architect included with all required detail		6	
Draftsperson	The Draftsperson must possess a minimum of 36 months of demonstrated experience within the last 60 months in computer-aided design (CAD) within the marine field.		Curriculum vitae of Draftsperson included with all required detail		6	

Table 9 - Project Management Plan
Maximum Score for Category = 30 points
Pass Score = 20 points

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
Project Management Plan The Bidder should provide information that details the Bidder's management approach and the processes to be used to address each requirement of the design, construction, outfit, test, trial, certification, and delivery to Canada of the Naval Large Tugs with respect to the following elements which form part of the Project Management Plan. Only the elements listed below form part of the evaluation: 1) Overview of the Bidder's Organization; 2) Overview of the Bidder's Human Resources Plan; 3) Communications Plan; 4) Design, engineering and drafting capabilities; 5) Integrated Logistics Support capabilities; 6) Management Information System; 7) Planning, scheduling and production control and performance monitoring system; and 8) Requirements Management Strategy							
1	Overview of Bidder's Organization	Bidders should include a description showing the reporting relationships, responsibilities, authorities and lines of communication and project control within		Bidder's Organization Overview		1	
				Reporting Relationships/Responsibilities		1	

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
		their organization. The overview should include the Bidder's Organization for design and engineering, material procurement, construction, quality management, test and trials, and administration.		Authorities		1	
				Lines of Communication		1	
				Project Control		1	
2	Overview of Bidder's Human Resources Plan	Bidder's should include details of their Human Resources plan and resource allocation strategy to illustrate how they will obtain, if necessary, the HR capacity with the right education, experience and qualifications to successfully manage and complete the work, specifically as it relates to administration, design and engineering, material procurement,		Administration personnel resources		1	
				Design and Engineering personnel resources		1	
				Material Procurement personnel resources		1	
				Construction personnel resources		1	
				Quality Management personnel resources		1	

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
		construction, quality management, and test and trials personnel and resources.		Test and Trials personnel resources		1	
3	Communication Plan	Bidders should include details of their Communication Plan which describes the communications workflow within the Bidder's organization and how communications and reporting will be handled with Canada. The Communications Plan should include details of information distribution and performance reporting, identify team members responsible for various elements of correspondence and reporting including monitoring and controlling, and identify what information is reported, the method and frequency of		Communication workflow		1	
				Details of information distribution and performance reporting		1	
				Identification of team members responsible for various elements of correspondence and reporting including monitoring and controlling		1	
				Identification of information to be reported, the method and frequency of communications and reporting submissions		1	

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
		communications and reporting submissions that the Bidder will employ if the Bidder is awarded a Contract as a result of this Solicitation.					
4	Description of the Bidder's design, engineering and drafting capabilities	Bidders should include a description of the design, engineering and drafting capabilities that will be used for the project. The Bidder should include details of either their in-house capabilities, or that they have written commitment for the duration of the Contract from a supplier to provide marine drafting and engineering services. The supplier should have the experience and capabilities with respect to the design and construction of vessels		Description of Design, Engineering and Drafting Capabilities		1	
				Description of project team responsible for engineering design and drafting		1	
				Evidence of in-house capabilities or written commitment for the duration of the Contract from a supplier to provide marine drafting and engineering services signed by the supplier on supplier letterhead.		1	

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
		of similar complexity.		Description of how the supplier meets the marine drafting and experience requirements described above for vessels of similar size, type and complexity		1	
5	Description of the Bidder's Integrated Logistics Support Capabilities	The Bidder's should include a description of how they will handle the Integrated Logistics Support requirements of the contract including sparing, publications, translation (as necessary), and how warranty issues will be dealt with.		Description of system by which the Bidder intends to conduct activities related to the calculation, storage, handling and packaging of spares, and warranty issues		1	
				Description of system for the development, configuration control, storage and transmission of publications, drawings and translation		1	

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
6	Description of the procedures and operations of the Bidder's management information system	The Bidder's should include a description of their management information system		Description of procedures and operations of the management information systems		1	
				Description of procedures and operations of data management and configuration management.		1	
				Description of; Computer systems Office software Engineering Software		1	
				Description of document tracking and records management procedures		1	
7	Description of the Bidder's planning,	The Bidder's should include a description of their planning,		Description of planning, scheduling and production		3	

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
	scheduling and production control and performance monitoring system	scheduling and production control and performance monitoring system		control systems.			
8	Description of the Bidder's requirements management strategy	The Bidder's should provide the details of their methodology for managing project requirements		Description of requirements management strategy		2	

Table 10 - Master Plan and Schedule

Maximum Score for Category = 30 points
Pass Score = 20 points

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comment / Remarks	Point Value of each Criteria	Bidder's Score
Master Plan and Schedule The Bidder should describe how they will schedule the work associated with the design, construction and delivery of the Naval Large Tugs by providing information with respect to the following elements which form part of the Master Plan and Schedule.							
1	Description of the Bidder's Master Plan and Schedule	Bidders should include a description to show how they will schedule the work associated with the design, construction and delivery of the vessels by providing information with respect to elements which form part of the Master Plan and Schedule The Bidder's schedule should include estimated start and completion dates based on an assumed Contract Award date.		Project Schedule prepared in MS Project and presented as a Gantt Chart with dependencies included		10	
				Identification of all activities of the contract in accordance with a recognized Work Breakdown Structure with a critical path including details of any activities that affect the Critical Path and impact		10	

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comment / Remarks	Point Value of each Criteria	Bidder's Score
				successor activities			
				Schedule includes all anticipated major milestones and key events		10	

Table 11 - Quality Plan
Maximum Score for Category = 30 points
Pass Score = 20 points

Bid Evaluation Criteria	Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
Quality Plan The Bidder should describe the plan that the Bidder will follow for controlling the quality of the various major work processes and where there will be opportune points to witness key quality program process points on either an occasional or continuing bases as part of the quality program verification activities. The Quality Plan should be prepared in accordance with the current version of ISO 10005 Quality Management Systems - Guidelines for Quality Plans, and describe, depict and define the Quality Program inspection and test activities. The Quality Plan should address the following elements from ISO 9001 Quality Management Systems - Requirements, as a minimum: 4.3 Determining the scope of the quality management system; 5.2 Policy; 5.3 Organizational roles, responsibilities and authorities; 6.2 Quality objectives and planning to achieve them; 7 Support; 8 Operation; 9 Performance Evaluation; and 10 Improvement. A Quality Plan for each of the following major work processes should be detailed to ensure product conformity with the System Requirements Document: a. Initial steel preparation, cutting and forming; b. Pre-construction fabrication of hull components; c. Module construction, outfitting and final preparation;						

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
d. Hull assembly and fitting; e. Major equipment acceptance inspections and tests; f. Major equipment installation; and g. Installed equipment inspections and tests. The Quality Plans should describe how the Bidder 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.							
1	Description of the Bidder's Quality Plan	Bidders should include a description of the plan they will follow, including a description of the processes used to manage, monitor and control the quality of the various major work processes associated with the design, construction and delivery of the vessels		The Quality Plan is prepared in accordance with ISO 10005		5	
				The Quality Plan describes, depicts and defines the Quality Program for inspection and test activities		5	
				The Quality Plan addresses the elements from ISO 9001 Quality Management Systems – Requirements listed above		5	

Bid Evaluation Criteria		Description of Requirement	Submitted Reference with page and paragraph number	Objective evidence required to demonstrate compliance	Comments / Remarks	Point Value of each Criteria	Bidder's Score
				The Quality Plan addresses the major work processes listed above		5	
				The Quality Plans describes how the Bidder will conform to the specified quality requirements of the contract		5	
				The Quality Plan specifies how the required quality activities are to be carried out including quality assurance of subcontractors		5	

Appendix C - Financial Evaluation Criteria - Financial Bid (Section III)

Table 12 – Financial Bid Evaluation Matrix

The Financial Bid must not be attached to or combined within any other part of the bid and prices must not appear in any other area of the proposal other than the Financial Bid.

Description of Mandatory Requirement Financial Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
a. The Bidder must submit their Financial Bid in accordance with Part 3 of the RFP and complete Annex B, Basis of Payment.				
Annex B completed and included per instructions.				

Appendix D - Certifications and Other Requirements Evaluation Criteria – Certifications Bid (Section IV)

Table 13 - Security, Financial and Other Requirements

Description of Mandatory Requirement Security, Financial and other Requirements	**Submitted Reference with page and paragraph number**	**Comments / Remarks**	**Canada's Evaluation**	
			Demonstrated Compliance Yes / No	
a. Insurance Requirements as per Part 6 of the RFP *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 Annex "E".*				
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 Annex "E".				
b. Security for Performance per Part 6 of the RFP *The Bidder must provide evidence with its Proposal that it can provide Contract Financial Security as outlined in Annex "H" Part 1. Such evidence must take the form of a letter to be obtained at the sole expense of the Bidder, issued by an approved surety or financial Institution on its letterhead to the Minister of Public Works and Government Services and signed by an authorized representative, confirming unequivocally that, upon the Contract being awarded to the Bidder, the surety or financial institution will, upon request, provide the Bidder with a form of Contract Financial Security as outlined above, and setting out, at a minimum, the amount of any such security, the cost of such security, and the time period during which it is to be extended. Failure to provide this evidence by the Bidder will result in disqualification of its Proposal. The cost to the Bidder of the Contract Financial Security is to be indicated in Annex "B" Line Item Pricing. No mark-up or other fees are permitted to be added to the cost of the Contract Financial Security.*				
Evidence that the Bidder can provide Contract Financial Security				

Table 14 - Certification Bid Evaluation Matrix

Description of Mandatory Requirement Certification Bid	**Submitted Reference with page and paragraph number**	**Comments / Remarks**	**Canada's Evaluation**	
			Demonstrated Compliance Yes / No	
Bidders must submit the certifications as required under Part 5 of the RFP, including; a. Integrity Provisions – Required Documentation; b. Federal Contractors Program for Employment Equity - Bid Certification; c. Workers Compensation Certification – Letter of Good Standing; d. Certification of Welding; and e. Labour Agreement. f. Aboriginal Participation Component.				
a. Integrity Provisions – Required Documentation as per Part 5 of the RFP In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.				
Documentation related to Integrity provisions included				
b. Federal Contractors Program for Employment Equity - Bid Certification as per Part 5 of the RFP The Bidder must provide the Contracting Authority with a completed annex titled 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 Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.				
Federal Contractors Program for Employment Equity – Certification.				
Joint Venture - Completed annex titled Federal Contractors Program for Employment Equity –				

Description of Mandatory Requirement Certification Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
Certification.				
c. Workers Compensation Certification – Letter of Good Standing as per Part 5 of the RFP The Bidder must have an account in good standing with the applicable provincial or territorial Workers' Compensation Board. The Bidder must provide, within five (5) calendar days following a request from the Contracting Authority, a certificate or letter from the applicable Workers' Compensation Board confirming the Bidder's good standing account. Failure to comply with the request may result in the bid being declared non-responsive.				
Certificate or letter from the applicable Workers' Compensation Board confirming the Bidder's good standing account.				
d. Certification of Welding as per Part 5 of the RFP It is a requirement of this RFP that the Bidders must provide evidence of certification for the current year for their shipyard with their bids and agree to maintain certification, until completion of the project, by the Canadian Welding Bureau (CWB) to CSA Standard W47.1: "Certification of Companies for Fusion Welding of Steel". The Bidder hereby attaches the following applicable information with the bid: (a) Proof of certification to CSA Standard W47.1 for the current year; and (b) Proof of CWB currently approved welding procedure specifications and supporting welding data sheets to construct the boat to project welding requirements; and EITHER (c) Proof of employed or sub-contracted inspection personnel are currently certified to CSA Standard W47.1 and W59; and				

Description of Mandatory Requirement Certification Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
(d) Proof of employed welders currently certified to CSA Standard W47.1; and (e) Proof of employed welding supervisors currently certified to CSA Standard W47.1 and W59. OR (f) Proof of capability to obtain as and when required personnel currently certified / approved to the standards identified in (c) and (d) and (e) above.				
a.) Proof of certification to CSA Standard W47.1 for the current year.				
b.) Proof of CWB currently approved welding procedure specifications and supporting welding data sheets to construct the boat to project welding requirements.				
EITHER				
c.) Proof of employed or sub-contracted inspection personnel are currently certified to CSA Standard W47.1 and W59.				
d.) Proof of employed welders currently certified to CSA Standard W47.1.				

Description of Mandatory Requirement Certification Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
e.) Proof of employed welding supervisors currently certified to CSA Standard W47.1 and W59.				
OR				
f.) Proof of capability to obtain as and when required personnel currently certified / approved to the standards identified in (c) and (d) and (e) above.				

e. Labour Agreement as per Part 5 of the RFP

Where the Bidder has a labour agreement, or other suitable instrument, in place with its unionized labour, and where such labour agreement or instrument is scheduled to expire during the period of the Contract, the Bidder represents that negotiations and good faith bargaining have commenced at least six (6) months in advance of the labour agreement expiry. The Bidder further represents and warrants that it will take all appropriate actions to ensure a continuous valid labour agreement, with all its workers, for the duration of the Contract.

The Bidder hereby provides the following documentation as part of its bid either ((a) and (b)) or (c):

a) List of all labour unions at Bidder's facilities; and

b) List the number of labour agreements in force with these unions and provide copies of all labour agreements in force;

OR

c) Statement that there are no labour unions at the bidder's facility.

Description of Mandatory Requirement Certification Bid	Submitted Reference with page and paragraph number	Comments / Remarks	Canada's Evaluation	
			Demonstrated Compliance Yes / No	
a) List of all labour unions at Bidder's facilities b) List the number of labour agreements in force with these unions and provide copies of all labour agreements in force				
OR				
c) Statement that there are no labour unions at the bidder's facility.				
f. Aboriginal Participation Component – Certification Form as per Part 5of the RFP By submitting a bid, the Bidder certifies that it will meet the Aboriginal Participation Component (APC). Therefore, at time of bid closing, the Bidder must provide the Contracting Authority with the completed APC Certification forms provided at Annex "J".				
Part 1 - Aboriginal Participation Component (APC) Certification				
Part 2 - Aboriginal Participation Component Plan Certification				

Appendix E - Mandatory Evaluation Criteria - Letter of Attestation – Proven Parent In-Service Vessel Inspection Availability – Management Bid (Section II)

Letter of Attestation

of

Proven Parent In-Service Vessel Inspection Availability

The Owner of the Proven Parent In-Service Vessel (hereafter referred to as the Owner) must provide, on company letterhead, the following attesting their agreement to make available the Proven Parent In-Service Vessel for the Proven Parent In-Service Vessel Inspection as described in the Statement of Work.

It is solely the Bidders responsibility to make the arrangements with the Owner and to include the negotiated costs for the Proven Parent In-Service Vessel Inspection in their bid.

The statement that must be signed by the Owner is as follows:

I [name of the Owner's representative] on behalf of [legal name of the Owner] hereby attest that [legal name of the Bidder] has entered into an arrangement with [legal name of the Owner] to make available at a future date the [name and hull number of vessel] for the purposes of a Proven Parent In-Service Vessel Inspection. Further, I agree that any photographs, video, measurements or other information gathered during the conduct of the Proven Parent In-Service Vessel Inspection shall remain the exclusive property of Canada and [legal name of the Owner] shall have no claim on same.

Signed on [date] in [location],

[Signature]

[Name of the Owner's representative]

[Signature]

[Bidder's Representative]

Appendix F – Curriculum Vitae Format Example
BIDDER'S NAME: "XYZ COMPANY"

Occupational Category **:** Project Manager Individual's Name: "JOE BLOGGINS"		
Project Team Requirements		
a. possess a minimum of 60 months of demonstrated experience in project management for marine projects within the last 120 months.		
Month & Year (Start to finish)	Employer/Position/Title	Work Experience ***Where, When and How Acquired?***