



**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**

**Attn: Indra Hamilton**

**Gatineau**

**Québec**

**K1A 0S5**

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

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

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

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

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

**Comments - Commentaires**

<b>Title - Sujet</b> Remotely Operated Vehicle (ROV) Sys	
<b>Solicitation No. - N° de l'invitation</b> W8476-185848/A	<b>Date</b> 2018-06-19
<b>Client Reference No. - N° de référence du client</b> W8476-185848	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$QF-030-26869	
<b>File No. - N° de dossier</b> 030qf.W8476-185848	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2018-07-31</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Standard Time EST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Hamilton, Indra	<b>Buyer Id - Id de l'acheteur</b> 030qf
<b>Telephone No. - N° de téléphone</b> (819) 420-1738 ( )	<b>FAX No. - N° de FAX</b> (819) 956-5650
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>  Specified Herein Précisé dans les présentes	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

**Vendor/Firm Name and Address**

**Raison sociale et adresse du**

**fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**

Electronics, Simulators and Defence Systems Div. /Division  
des systèmes électroniques et des systèmes de simulation et  
de défense

11 Laurier St. / 11, rue Laurier

8C2, Place du Portage

Gatineau

Québec

K1A 0S5

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



Destination Code - Code destinataire	Destination Address - Adresse de la destination	Invoice Code - Code bur.-comptable	Invoice Address - Adresse de facturation
D - 1	7 CFSD - RECEIPTS SECTION CFB Edmonton 195 AVE & 82 ST - Bldg. 236 EDMONTON AB T5J 4J5 CANADA	W8476	DEPARTMENT OF NATIONAL DEFENCE 101 COLONEL BY DR. DGLEPM CAPITAL OTTAWA Ontario K1A0K2 Canada



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Destination	Unit Price/Prix unitaire FOB/FAM	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	As per attached Contract End Item List	D-1	W8476	1	LO	\$	\$		See Herein	
2	Optional Items as per CEII	D-1	W8476	1	LO	\$	\$		See Herein	

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Introduction**

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

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

The Annexes include the Statement of Work, Contractor End Item List, Technical Proposal Requirements and Bid Evaluation, the Security Requirements Checklist, Delivery Schedule, and the Basis of Payment, Certification Federal Contractor Program, and Phased Bid Compliance Process.

### **1.2 Summary**

- 1.2.1 This requirement on behalf of the Department of National Defence, for the High Risk Search Remotely Operated Vehicle System (HRS-ROV), a combination of ROVs, one small and one large, which will be used by the Canadian Armed Forces (CAF) field engineer sections in the roles of intermediate and advanced search teams.

Delivery will be per Annex E.

First Delivery per Delivery Schedule, will be within twelve (12) months of contract award.

Last delivery, will be within eighteen (18) months of contract award.

Optional requirements will be exercised within two (2) years of contract award and be delivered within six (6) months of the order.

The HRS-ROV will need to be man-portable and quickly deployable. They will need to be able to climb stairs, navigate culverts, and operate in a non-line of sight manner and in close spaces.

The combination of ROVs, Small ROV System and Large ROV System, will be the best approach to address the task-specific balance of weight, payload and mobility. These ROVs will need to act as mobile communication relays for each other, in a mesh-type network, to assist with communication connection in subterranean or reinforced concrete buildings, which is generally very disruptive to most communications systems.

**Small ROV System** – will be used primarily for its optics, to identify and mitigate threats, and will be capable of target identification but not necessarily manipulation.

**Large ROV System** – will be used primarily for its optics and to manipulate small objects in order to investigate and identify threats. This could apply to opening locked doors, moving obstacles, and being able to interrogate an identified threat by the Explosive Ordnance Disposal team should they take over control.

- 1.2.2 "There are security requirements associated with this requirement. For additional information, consult Part 6 - Security, Financial and Other Requirements, and Part 7 - Resulting Contract Clauses. For more information on personnel and organization security screening or security clauses, Bidders should refer to the Contract Security Program of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website".
- 1.2.3 "The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA)."
- 1.2.4 *NOT APPLICABLE* - Canadian Content Policy
- 1.2.5 *NOT APPLICABLE* - subject only to the Canadian Free Trade Agreement (CFTA),
- 1.2.6 *NOT APPLICABLE* - Comprehensive Land Claims Agreements (CLCAs)
- 1.2.7 *NOT APPLICABLE* - set aside under the federal government Procurement Strategy for Aboriginal Business.
- 1.2.8 This procurement is subject to the Controlled Goods Program. The Defence production Act defines Canadian Controlled Goods as certain goods listed in Canada's Export Control List, a regulation made pursuant to the Export and Import Permits Act (EIPA).
- 1.2.9 *NOT APPLICABLE* – *National Security Exemption*
- 1.2.10 There is a mandatory evaluation trial.
- 1.2.11 *NOT APPLICABLE*  
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 the annex titled Federal Contractors Program for Employment Equity - Certification.
- 1.2.12 *NOT APPLICABLE* – *Epost Connect Service provided by Canada Post*

### 1.3 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.

### 1.4 Phased Bid Compliance Process

The Phased Bid Compliance Process applies to this requirement.

## **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:

Insert: one-hundred and twenty (120) days

### **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 NOT APPLICABLE - Former Public Servant**

### **2.4 Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) 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.

### **2.5 Applicable Laws**

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

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

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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.

**2.6 NOT APPLICABLE - Improvement of Requirement during Solicitation Period (A9076T)**

**2.7 NOT APPLICABLE - Bidders' Conference (A9083T)**

**2.8 Mandatory Site Visit (A9040T) 2015-07-03 (Trial evaluation)**

It is mandatory that the Bidder or a representative of the Bidder visit the work site for trial evaluation. Arrangements have been made for the site visit to be held at (date and time at a later time). The address is as follows:

Prairie Agriculture Machinery Institute  
Highway #5 West, 2215 8<sup>th</sup> Avenue  
Humboldt, Saskatchewan S0K 2A0

The schedule for the site visit will be provided to individual bidder closer to the Trial evaluation.

Bidders must communicate with the Contracting Authority no later than fourteen (14) calendar days before the appointed time slot, to confirm attendance and provide the name(s) of the person(s) who will attend. Bidders will be required to sign an attendance sheet. Bidders should confirm in their bid that they have attended the site visit. Bidders who do not attend the mandatory site visit or do not send a representative will not be given an alternative appointment and their bid will be declared non-responsive. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

**2.9 NOT APPLICABLE - Basis for Canada's Ownership of Intellectual Property (K3200T)**

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

### **3.1 Bid Preparation Instructions**

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

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

Section I: Technical Bid, four (4) hard copies, and one (1) soft copy on a USB key.

Section II: Financial Bid one (1) hard copy and one (1) soft copy on a USB key.

Section III: Certifications one (1) hard copy each.

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

Canada requests that bidders follow the format instructions described below in the preparation of hard copy of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (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.

#### **Section I: Technical Bid A9097T (2007-05-25)**

Bidders must demonstrate their compliance with the following sections of the bid solicitation by providing substantial information describing completely and in detail how the requirement is met or addressed. Bidders must provide with their technical bid, a document indicating clearly where the substantial information for each of the sections identified below can be found.

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

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that Bidders address and present topics in the order of the evaluation criteria under the same headings. To

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avoid duplication, Bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

### **Management Bid:**

In their management bid, Bidders must describe their capability and experience, the project management team and provide client contact(s).

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

#### **3.1.1 Bidders must submit their financial bid in accordance with the Basis of Payment in Annex "F".**

It is MANDATORY to fill out all "boxes" for all line items in the Basis of Payment.

#### **3.1.2 Electronic Payment of Invoices – Bid**

Please indicate if you are willing to accept payment of invoices by Electronic Payment Instruments.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

#### **3.1.3 Exchange Rate Fluctuation C3011T (2013-11-06)**

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

#### **3.1.4 SACC Manual Clauses**

### **Section III: Certifications**

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

### **Section IV: Additional Information**

There is a Security Requirement associated with this requirement.

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

### **4.1 Evaluation Procedures**

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

#### **4.1.1 Technical Evaluation**

##### **4.1.1.1 Mandatory Technical Criteria**

Ref Annex C.

##### **4.1.1.2 Trial evaluation/Demonstration**

Ref Annex C.

#### **4.1.2 Financial Evaluation A0222T (2014-06-26) amended**

##### **4.1.2.1 Mandatory Financial Criteria**

1. The price of the bid will be evaluated as follows:
  - a. Canadian-based bidders must submit firm prices for each item in the Basis of Payment, Canadian customs duties and excise taxes included, and Applicable Taxes excluded.
  - b. foreign-based bidders must submit firm prices for each item in the Basis of Payment, Canadian customs duties, excise taxes and Applicable Taxes included in the prices submitted by foreign-based bidders.
2. Unless the bid solicitation specifically requires bids to be submitted in Canadian currency, bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The rate given by the Bank of Canada in effect on the bid solicitation closing date, will be applied as a conversion factor to the bids submitted in foreign currency.
3. Canada reserves the right to award the Contract as Delivered Duty Paid-DDP per contractual shipping instructions. Canada requests that bidders provide prices as DDP to 7 CFSD Edmonton, Canada. Bids will be assessed on a DDP Delivered Duty Paid basis.
4. For the purpose of the bid solicitation, bidders with an address in Canada are considered Canadian-based bidders and bidders with an address outside of Canada are considered foreign-based bidders.

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### 4.1.3 Phased Bid Compliance Process

#### 4.1.3.1 (2017-11-03) General

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

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

REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE IN SUCH EARLIER PHASE. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE.

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

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

#### 4.1.3.2 (2018-03-13) 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.

#### 4.1.3.3 (2018-03-13) Phase II: Technical Bid

- (a) Canada's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.
- (b) Canada will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- (c) A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.
- (d) The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.
- (e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- (f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.

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- (g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid
- (h) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

#### **4.1.3.4 (2018-03-13) Phase III: Final Evaluation of the Bid**

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

#### **4.1.4 (2017-07-31) Technical Evaluation**

The Phased Bid Compliance Process will apply to all mandatory technical criteria. Please refer to Annex C – Technical Proposal Requirement and Bid Evaluation, sub-section 3.

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## **4.2 Basis of Selection**

### **4.2.1 Mandatory Technical Criteria A0031T (2010-08-16)**

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest overall evaluated price will be recommended for award of a contract.

### **4.2.2 Financial Mandatory A0069T (2007-05-25)**

It is MANDATORY to complete out all "boxes", for all line items in the Basis of Payment located at Annex F

A bid must comply with all requirements of the bid solicitation to be declared responsive. The responsive bid with the lowest overall evaluated price will be recommended for award of a contract.

Note: Cost for all items 1-28 of the Basis of Payment, Annex F, will be evaluated for the best overall price.

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## PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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

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

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

### 5.1 Certifications Required with the Bid

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

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

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

#### 5.1.2 Additional Certifications Required with the Bid

##### 5.1.2.1 NOT APPLICABLE - Canadian Content Certification

##### 5.1.2.2 NOT APPLICABLE - Set-aside for Aboriginal Business

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

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

#### 5.2.1 Integrity Provisions – Required Documentation

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

#### 5.2.2 Federal Contractors Program for Employment Equity (if applicable) - Bid Certification located at Annex G.

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#>).

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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.

### **5.2.3 Additional Certifications Precedent to Contract Award**

#### **5.2.3.1 NOT APPLICABLE - Canadian Content Certification**

#### **5.2.3.2 NOT APPLICABLE - Status and Availability of Resources**

#### **5.2.3.3 Price Certification Foreign Suppliers C0001T (2007-05-25)**

The Bidder certifies that the price proposed is not in excess of the lowest price charged anyone else, including the Bidder's most favoured customer, for the like quality and quantity of the goods, services or both.

#### **5.2.3.4 NOT APPLICABLE - Education and Experience**

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## PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

### 6.1 Security Requirements

1. There is a Security requirement associated with the Requirement. Please refer to Part 7 – Resulting Contract Clauses.
2. Bidders are reminded to obtain the required security clearance promptly. Any delay in the award of a contract to allow the successful Bidder to obtain the required clearance will be at the entire discretion of the Contracting Authority.
3. For additional information on security requirements, Bidders should refer to the Contract Security Program of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.

### 6.2 Financial Capability A9033T (2012-07-16)

1. **Financial Capability Requirement:** The Bidder must have the financial capability to fulfill this requirement. To determine the Bidder's financial capability, the Contracting Authority may, by written notice to the Bidder, require the submission of some or all of the financial information detailed below during the evaluation of bids. The Bidder must provide the following information to the Contracting Authority within fifteen (15) working days of the request or as specified by the Contracting Authority in the notice:
  - a. Audited financial statements, if available, or the unaudited financial statements (prepared by the Bidder's outside accounting firm, if available, or prepared in-house if no external statements have been prepared) for the Bidder's last three fiscal years, or for the years that the Bidder has been in business if this is less than three years (including, as a minimum, the Balance Sheet, the Statement of Retained Earnings, the Income Statement and any notes to the statements).
  - b. If the date of the financial statements in (a) above is more than five months before the date of the request for information by the Contracting Authority, the Bidder must also provide, unless this is prohibited by legislation for public companies, the last quarterly financial statements (consisting of a Balance Sheet and a year-to-date Income Statement), as of two months before the date on which the Contracting Authority requests this information.
  - c. If the Bidder has not been in business for at least one full fiscal year, the following must be provided:
    - i. the opening Balance Sheet on commencement of business (in the case of a corporation, the date of incorporation); and
    - ii. the last quarterly financial statements (consisting of a Balance Sheet and a year-to-date Income Statement) as of two months before the date on which the Contracting Authority requests this information.
  - d. A certification from the Chief Financial Officer or an authorized signing officer of the Bidder that the financial information provided is complete and accurate.

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- e. A confirmation letter from all of the financial institution(s) that have provided short-term financing to the Bidder outlining the total of lines of credit granted to the Bidder and the amount of credit that remains available and not drawn upon as of one month prior to the date on which the Contracting Authority requests this information.
  - f. A detailed monthly Cash Flow Statement covering all the Bidder's activities (including the requirement) for the first two years of the requirement that is the subject of the bid solicitation, unless this is prohibited by legislation. This statement must detail the Bidder's major sources and amounts of cash and the major items of cash expenditures on a monthly basis, for all the Bidder's activities. All assumptions made should be explained as well as details of how cash shortfalls will be financed.
  - g. A detailed monthly Project Cash Flow Statement covering the first two years of the requirement that is the subject of the bid solicitation, unless this is prohibited by legislation. This statement must detail the Bidder's major sources and amounts of cash and the major items of cash expenditures, for the requirement, on a monthly basis. All assumptions made should be explained as well as details of how cash shortfalls will be financed.
2. If the Bidder is a joint venture, the financial information required by the Contracting Authority must be provided by each member of the joint venture.
  3. If the Bidder is a subsidiary of another company, then any financial information in 1. (a) to (f) above required by the Contracting Authority must be provided by the ultimate parent company. Provision of parent company financial information does not by itself satisfy the requirement for the provision of the financial information of the Bidder, and the financial capability of a parent cannot be substituted for the financial capability of the Bidder itself unless an agreement by the parent company to sign a Parental Guarantee, as drawn up by Public Works and Government Services Canada (PWGSC), is provided with the required information.
  4. **Financial Information Already Provided to PWGSC:** The Bidder is not required to resubmit any financial information requested by the Contracting Authority that is already on file at PWGSC with the Contract Cost Analysis, Audit and Policy Directorate of the Policy, Risk, Integrity and Strategic Management Sector, provided that within the above-noted time frame:
    - a. the Bidder identifies to the Contracting Authority in writing the specific information that is on file and the requirement for which this information was provided; and
    - b. the Bidder authorizes the use of the information for this requirement.

It is the Bidder's responsibility to confirm with the Contracting Authority that this information is still on file with PWGSC.
  5. **Other Information:** Canada reserves the right to request from the Bidder any other information that Canada requires to conduct a complete financial capability assessment of the Bidder.
  6. **Confidentiality:** If the Bidder provides the information required above to Canada in confidence while indicating that the disclosed information is confidential, then Canada will treat the information in a confidential manner as permitted by the [Access to Information Act](#), R.S., 1985, c. A-1, Section 20(1) (b) and (c).

7. **Security:** In determining the Bidder's financial capability to fulfill this requirement, Canada may consider any security the Bidder is capable of providing, at the Bidder's sole expense (for example, an irrevocable letter of credit from a registered financial institution drawn in favour of Canada, a performance guarantee from a third party or some other form of security, as determined by Canada).

### 6.3 NOT APPLICABLE - Bid Financial Security

#### 6.3.1 NOT APPLICABLE - Security Deposit

### 6.4 Controlled Goods Requirement A9130T (2014-11-27)

1. As the resulting contract will require the production of or access to controlled goods that are subject to the [Defence Production Act](#), R.S. 1985, c. D-1, bidders are advised that within Canada only persons who are registered, exempt or excluded under the Controlled Goods Program (CGP) are lawfully entitled to examine, possess or transfer controlled goods. Details on how to register under the CGP are available at: [Controlled Goods Program](#) and registration is carried out as follows:
  - a. When the bid solicitation includes controlled goods information or technology, the Bidder must be registered, exempt or excluded under the CGP before receiving the bid solicitation. Requests for technical data packages or specifications related to controlled goods should be made in writing to the Contracting Authority identified in the bid solicitation and must contain the CGP registration number or written proof of exemption or exclusion of the Bidder and of any other person to whom the Bidder will give access to the controlled goods.
  - b. When the bid solicitation does not include controlled goods information or technology but the resulting contract requires the production of or access to controlled goods, the successful Bidder and any subcontractor who will be producing or accessing controlled goods must be registered, exempt or excluded under the CGP before examining, possessing or transferring controlled goods.
  - c. When the successful Bidder and any subcontractor proposed to examine, possess or transfer controlled goods are not registered, exempt or excluded under the CGP at time of contract award, the successful Bidder and any subcontractor must, within seven (7) working days from receipt of written notification of contract award, ensure that the required application(s) for registration or exemption are submitted to the CGP. No examination, possession or transfer of controlled goods must be performed until the successful Bidder has provided proof, satisfactory to the Contracting Authority that the successful Bidder and any subcontractor are registered, exempt, or excluded under the CGP.

Failure to provide proof, satisfactory to the Contracting Authority, that the successful Bidder and any subcontractor are registered, exempt or excluded under the CGP, within thirty (30) days from receipt of written notification of contract award, will be considered a default under the resulting contract except to the extent that Canada is responsible for the failure due to delay in processing the application.

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2. Bidders are advised that all information on the Application for Registration (or exemption) Form will be verified and errors or inaccuracies may cause significant delays and/or result in denial of registration or exemption.

#### **6.5 Insurance Requirements G1005C (2016-01-28)**

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.

## **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 Statement of Work B4007C (2014-06-26)**

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

#### **7.1.1 Optional Goods and/or Services A0070C (2007-11-30)**

The Contracting Authority may exercise the option within two years of contract award, by sending a written notice to the Contractor.

#### **7.1.2 Task Authorization**

The Work or a portion of the Work to be performed under the Contract will be on an "as and when requested basis" using a Task Authorization (TA). The Work described in the TA must be in accordance with the scope of the Contract.

The contractor shall provide service or goods in accordance with the Statement of Work. The work is not limited to the categories listed below:

- a. Repair and overhaul
- b. Technical Investigations and Engineering Services
- c. Field Service Representative
- d. Mobile Repair Party
- e. Provision of spares
- f. Special Tools and Test Equipment

##### **7.1.2.1 Task Authorization Process B9054C (2014-06-26)**

1. The Technical Authority will provide the Contractor with a description of the task in the form of a Statement of Work.
2. The Contractor must provide Canada, within 14 calendar days of its receipt, the proposed total estimated cost for performing the task and a breakdown of that cost, established in accordance with the Basis of Payment specified in the Contract.
3. The Procurement Authority (PA) will provide the DND 626 task authorization, and will contain the details of the activities to be performed, a description of the deliverables, and a schedule indicating completion dates for the major activities or submission dates for the deliverables. The Task Authorization will also include the applicable basis (bases) and methods of payment as specified in the Contract.
4. The Contractor must not commence work until task authorization, DND 626 authorized by the Procurement or Contracting Authority has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

#### **7.1.2.2 Task Authorization Limit C9011C (2014-06-26)**

The Procurement Authority may authorize individual task authorizations up to a limit of \$100,000.00, Applicable Taxes included, and inclusive of any revisions.

Any task authorization to be issued in excess of that limit must be authorized by the Contracting Authority before issuance.

#### **7.1.2.3 NOT APPLICABLE Task Authorization - Order of Ranking**

#### **7.1.2.4 NOT APPLICABLE Minimum Work Guarantee - All the Work - Task Authorizations**

#### **7.1.2.4 NOT APPLICABLE - Canada's Obligation - Portion of the Work - Task Authorizations**

#### **7.1.2.5 NOT APPLICABLE - Periodic Usage Reports - Contracts with Task Authorizations**

#### **7.1.2.6 Task Authorization - Department of National Defence B9051C (2011-05-16)**

The administration of the Task Authorization process will be carried out by The Department of National Defence. This process includes monitoring, controlling and reporting on expenditures of the contract with task authorizations to the Contracting Authority.

### **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 (2017-04-27), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

#### **7.2.2 Supplemental General Conditions**

4006 (2010-08-06) Contractor to Own Intellectual Property Rights in Foreground Information apply to and form part of the Contract.

### **7.3 Security Requirements**

The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).

This contract includes access to **Controlled Goods**. Prior to access, the contractor must be registered in the Controlled Goods Program of Public Works and Government Services Canada (PWGSC).

The Contractor/Offeror personnel requiring access to sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC.

Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.

The Contractor/Offeror must comply with the provisions of the:

- a) Security Requirements Check List and security guide (if applicable), attached at Annex D;
- b) *Industrial Security Manual* (Latest Edition).

#### **7.4 Period of the Contract A9022C (2007-05-25) amended**

The period of the contract will be for two (2) years from the date of Contract award.

##### **7.4.1 Delivery Date**

All deliveries must be in accordance with Annex E, Delivery Schedule.

##### **7.4.2 Option to Extend the Contract A9009C (2008-12-12)**

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to one (1) additional one (1) year period under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least thirty (30) calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

##### **7.4.3 NOT APPLICABLE - Comprehensive Land Claims Agreements (CLCAs)**

##### **7.4.4 Delivery Point:**

Delivery of the requirement will be in accordance with Annex E – Delivery Schedule.

#### **7.5 Authorities**

##### **7.5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Name: *Indra Hamilton*  
Title: Contracting Authority  
Public Works and Government Services Canada  
Acquisitions Branch  
Directorate: LAEPSS  
Address: 11 Laurier Street, Gatineau, QC

Telephone: 819 420 1738  
E-mail address: [indra.hamilton@pwgsc-tpsgc.gc.ca](mailto:indra.hamilton@pwgsc-tpsgc.gc.ca)

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

##### **7.5.2 Procurement Authority A1031C (2008-05-12) (to be completed at contract award)**

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The Procurement Authority for the Contract is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_

Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
E-mail address: \_\_\_\_\_

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

**7.5.3 Technical Authority A1030C (2007-05-25) *(to be completed at contract award)***

The Technical Authority for the Contract is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_

Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
E-mail address: \_\_\_\_\_

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

**7.5.4 ILS Manager *(to be completed at contract award)***

The ILS Manager for the Contract is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
National Defence Headquarters  
MGen George R. Pearkes Building  
101 Colonel By Drive  
Ottawa, Ontario K1A 0K2

Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
E-mail address: \_\_\_\_\_

The ILS Manager named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the ILS content of the Work under the Contract. ILS matters may be discussed with the ILS Manager, however the ILS Manager

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CCC No./N° CCC - FMS No./N° VME

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.

**7.5.5 Contractor's Representative** *(to be completed at contract award)*

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_

Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
E-mail address: \_\_\_\_\_

**7.6 NOT APPLICABLE -Proactive Disclosure of Contracts with Former Public Servants (Service)**

**7.7 Payment**

**7.7.1 Basis of Payment - Limitation of expenditure C0206C (2017-08-17)**

The Contractor will be paid for its costs reasonably and properly incurred in the performance of the Work, in accordance with the Basis of payment in Annex F, to a limitation of expenditure of \$\_\_\_\_\_ *(insert the amount at contract award)*. Customs duties are included (if applicable) and Applicable Taxes are included.

**7.7.2 Limitation of Price C6000C (2017-08-17)**

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.

**7.7.3 Basis of Payment - Firm Price, Firm Unit Price(s) Applies to Optional Requirement only – C0207C (2013-04-25)**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a *firm unit price per Basis of Payment, Annex F*. Customs duties are included and Applicable Taxes are extra.

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

**7.7.4 Multiple Payments H1001C (2008-05-12)**

Canada will pay the Contractor upon completion and delivery of units or line items in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work delivered has been accepted by Canada.

**7.7.5 NOT APPLICABLE**

### **7.7.6 Electronic Payment of Invoices – Contract - H3027C (2016-01-28)**

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Direct Deposit (Domestic and International);
- b. Electronic Data Interchange (EDI);
- c. Wire Transfer (International Only);

### **7.7.7 Discretionary Audit Commercial Goods C0100C (2010-01-11)**

The Contractor's certification that the price or rate is not in excess of the lowest price or rate charged anyone else, including the Contractor's most favoured customer, for the like quality and quantity of the goods, services or both, is subject to verification by government audit, at the discretion of Canada, before or after payment is made to the Contractor.

If the audit demonstrates that the certification is in error after payment is made to the Contractor, the Contractor must, at the discretion of Canada, make repayment to Canada in the amount found to be in excess of the lowest price or rate or authorize the retention by Canada of that amount by way of deduction from any sum of money that may be due or payable to the Contractor pursuant to the Contract.

If the audit demonstrates that the certification is in error before payment is made, the Contractor agrees that any pending invoice will be adjusted by Canada in accordance with the results of the audit. It is further agreed that if the Contract is still in effect at the time of the verification, the price or rate will be lowered in accordance with the results of the audit.

### **7.7.8 Time Verification (if applicable) C0711C (2008-05-12)**

Time charged and the accuracy of the Contractor's time recording system are subject to verification by Canada, before or after payment is made to the Contractor. If verification is done after payment, the Contractor must repay any overpayment, at Canada's request.

### **7.8 Invoicing Instructions H5001C (2008-12-12)**

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Invoices must be distributed as follows:

- a. The original and one (1) copy must be forwarded to the following address for certification and payment.
  - (i) The Procurement Authority (article 7.5.2), Department of National Defence
- b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.
- c. one (1) copy must be forwarded to the consignee.

Note: Invoice(s) may be submitted electronically.

## 7.9 Certifications and Additional Information

### 7.9.1 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.

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

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

### 7.9.3 NOT APPLICABLE

## 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 wordings of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the supplemental general conditions 4006 (2010-08-06) Contractor to Own Intellectual Property Rights in Foreground Information apply to and form part of the Contract;
- (c) the general conditions 2030 (2017-04-27), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract;
- (d) Annex A, Statement of Work;
- (e) Annex F, Basis of Payment;
- (f) Annex D, Security Requirements Check List;
- (g) the signed Task Authorizations (including all of its annexes, if any);
- (h) the Contractor's bid dated \_\_\_\_\_,

## 7.12 Defence Contract A9006C (2012-07-16)

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

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

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

A2000C (2006-06-16) Foreign Nationals (Canadian Contractor)

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The Contractor must comply with Canadian immigration requirements applicable to foreign nationals entering Canada to work temporarily in fulfillment of the Contract. If the Contractor wishes to hire a foreign national to work in Canada to fulfill the Contract, the Contractor should immediately contact the nearest Service Canada regional office to enquire about Citizenship and Immigration Canada's requirements to issue a temporary work permit to a foreign national. The Contractor is responsible for all costs incurred as a result of non-compliance with immigration requirements.

#### A2001C (2006-06-16) Foreign Nationals (Foreign Contractor)

The Contractor must comply with Canadian immigration legislation applicable to foreign nationals entering Canada to work temporarily in fulfillment of the Contract. If the Contractor wishes to hire a foreign national to work in Canada to fulfill the Contract, the Contractor should immediately contact the nearest Canadian Embassy, Consulate or High Commission in the Contractor's country to obtain instructions, information on Citizenship and Immigration Canada's requirements and any required documents. The Contractor is responsible to ensure that foreign nationals have the required information, documents and authorizations before performing any work under the Contract in Canada. The Contractor is responsible for all costs incurred as a result of non-compliance with immigration requirements.

#### **7.14 Insurance Requirements G1005C (2016-01-28)**

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.

#### **7.15 Controlled Goods Program A9131C (2014-11-27)**

As the Contract requires production of or access to controlled goods that are subject to the [Defence Production Act](#) R.S. 1985, c. D-1, the Contractor and any subcontractor are advised that, within Canada, only persons who are registered, exempt or excluded under the Controlled Goods Program (CGP) are lawfully entitled to examine, possess or transfer controlled goods. Details on how to register under the CGP are available at: [Controlled Goods Program](#)

When the Contractor and any subcontractor proposed to examine, possess or transfer controlled goods are not registered, exempt or excluded under the CGP at time of contract award, the Contractor and any subcontractor must, within seven (7) working days from receipt of written notification of the contract award, ensure that the required application(s) for registration or exemption are submitted to the CGP. No examination, possession or transfer of controlled goods must be performed until the Contractor has provided proof, satisfactory to the Contracting Authority, that the Contractor and any subcontractor are registered, exempt or excluded under the CGP.

Failure of the Contractor to provide proof, satisfactory to the Contracting Authority, that the Contractor and any subcontractor are registered, exempt or excluded under the CGP, within thirty (30) days from receipt of written notification of contract award, will be considered a default under the Contract except to the extent that Canada is responsible for the failure due to delay in processing the application.

The Contractor and any subcontractor must maintain registration, exemption or exclusion from the CGP for the duration of the Contract and in any event for so long as they will examine, possess or transfer controlled goods.

## 7.16 Limitation of Liability (General Conditions)

### 7.17 Canadian Forces Site Regulations A9062C (2011-05-16)

The Contractor must comply with all standing orders or other regulations, instructions and directives in force on the site where the Work is performed.

### 7.18 Condition of Material B1000T (2014-06-26)

Material supplied must be new and conform to the latest issue of the applicable drawing, specification and/or part number that is in effect on the bid solicitation closing date.

### 7.19 Controlled Goods B4060C (2011-05-16)

The Contract involves controlled goods as defined in the Schedule to the [Defence Production Act](#). The Contractor must identify those controlled goods to the Department of National Defence.

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

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.

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.

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.

#### **7.21 Bar Coding - Package Marking D2020C (2008-05-12) amended**

The Contractor must apply, on the package, bar code information for equipment as shown on the Basis of Payment, Annex F, and using bar code symbology *UCC/EAN-128* (Uniform Code Council/EAN International). Below the bar code symbol, the Contractor must apply the Human-Readable Interpretation (HRI) markings.

The bar code marking(s) must be legible, applied to a printable surface or label and positioned in accordance with the Canadian Forces Packaging Specification *D-LM-008-002/SF-001, marking for Storage and Shipment* (in effect at the closing date of the bid solicitation).

#### **7.22 Wood packaging materials D2025C (2017-08-17)**

All wood packaging materials used in shipping must conform to the [International Standards for Phytosanitary Measures No. 15: Regulation of Wood Packaging Material in International Trade \(ISPM 15\)](#).

Pertinent additional information on Canada's import and export programs is provided in the following Canadian Food Inspection Agency policy directives:

D-98-08 - [Entry Requirements for Wood Packaging Materials Produced in All Areas Other Than the Continental United States](#)

D-13-01 – [Canadian Heat Treated Wood Products Certification Program \(HT Program\)](#)

#### **7.23 Delivery of Dangerous Goods/Hazardous Products D3010C (2016-01-28)**

The Contractor must mark dangerous goods/hazardous products which are classed as dangerous/hazardous as follows:

- a. shipping container - in accordance with the [Transportation of Dangerous Goods Act](#), 1992, c. 34; and
- b. immediate product container - in accordance with the [Hazardous Products Act](#), R.S., 1985, c. H-3.

The Contractor must provide bilingual Safety Data Sheets, indicating the NATO Stock Number as follows:

- a. two hard copies:
  - i. one copy to be enclosed with the shipment, and

- ii. one copy to be mailed to:  
National Defence Headquarters  
MGen George R. Pearkes Building  
101 Colonel By Drive  
Ottawa, Ontario K1A 0K2  
Attention: DSCO 5-4-2

- b. one copy sent in any electronic format to the following address: [MSDS-FS@FORCES.GC.CA](mailto:MSDS-FS@FORCES.GC.CA).

The Contractor will be responsible for any damages caused by improper packaging, labelling or carriage of dangerous goods/hazardous products.

The Contractor must ensure they adhere to all levels of regulations regarding dangerous goods/hazardous products as set forth by federal, provincial and municipal laws and by-laws.

The Contractor must contact the consignee (i.e. Supply Depot Traffic Section) at least 48 hours before shipping dangerous goods/hazardous products in order to schedule a receiving time.

#### **7.24 Packaging Requirement using Specification D-LM-008-036/SF-000 D3018C (2014-09-25)**

The Contractor must prepare item number(s) 1 and 2 of the Basis of Payment, Annex F, for delivery in accordance with the latest issue of the Canadian Forces Packaging Specification *D-LM-008-036/SF-000*, DND Minimum Requirements for Manufacturer's Standard Pack.

Item 1: The Contractor must package each item separately.

Item 2: The Contractor must package each item separately.

#### **7.25 Shipping instructions: Delivery and destination schedules D6009C (2017-11-28)**

The Contractor must ship the goods prepaid DDP - Delivered Duty Paid Incoterms 2000 DDP Delivered Duty Paid to 7 CFSD, Receipts Section, CFB Edmonton, 195 Ave, & 82 Street, Bldg. 236, Edmonton. AB T5J 4J5.

1. Unless otherwise directed, delivery must be made by the most economical means. Shipping charges must be shown as a separate item on the Contractor's invoice. The Contractor is responsible for all delivery charges, administration, costs and risks of transport and customs clearance, including the payment of customs duties and Applicable Taxes.
2. The Contractor must deliver the goods to Canadian Forces (CF) Supply Depots by appointment only. The Contractor or its carrier must arrange delivery appointments by contacting the Depot Traffic Section at the appropriate location shown below. The consignee may refuse shipments when prior arrangements have not been made.

7 CF Supply Depot Lancaster Park  
Edmonton, Alta  
Email: [Edm-7CFSD-Cust-Svcs@intern.mil.ca](mailto:Edm-7CFSD-Cust-Svcs@intern.mil.ca)

#### **7.26 ISO 9001:2008 - Quality Management Systems - Requirements (Quality Assurance Code C) D5545C (2010-08-16)**

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The Contractor is responsible for implementing a quality system appropriate to the scope of the work to be performed. It is recommended that the quality system be based on *ISO 9001:2008 "Quality management systems - Requirements."*

The Contractor is responsible for performing or having performed all inspections and tests necessary to substantiate that the materiel or services provided conform to the drawings, specifications and the requirements of the contract. The Contractor must keep accurate and complete inspection records which must, upon request, be made available to the authorized Department of National Defence (DND) representative, who may make copies and take extracts during the performance of the Contract and for a period of one (1) year after the completion of the Contract.

Despite the above, all materiel is subject to verification and acceptance by DND at destination. The authorized DND representative at destination may either be the consignee(s), the Technical Authority, or the Quality Assurance Authority.

### **7.27 Palletization D6010C (2007-11-30)**

For all shipments exceeding 0.566 m<sup>3</sup> or 15.88 kg (20 ft<sup>3</sup> or 35 lbs), except for those shipped by courier, the following applies:

- a. The Contractor must strap, and if necessary wrap, shipments on standard 1.22 m x 1.02 m (48 in. x 40 in.) wood pallets. The four-way forklift entry pallet must be supplied at no charge to Department of National Defence. Total height, including pallet, must not exceed 1.19 m (47 in.). The pallet load must not extend further than 2.54 cm (1 in.) from any edge of the pallet.
- b. The Contractor must group items by stock number (on the same pallet) within consolidated shipments. Pallet loads composed of more than one stock number must be marked as **"Mixed Items"**.
- c. Individual items exceeding 1.22 m (48 in.) in length or 453.6 kg (1000 lbs) must be secured to larger pallets or must have 10.16 cm x 10.16 cm (4 in. x 4 in.) skids securely fastened to the bottom of the item. Skids must be separated by a minimum of 71.12 cm (28 in.).

Any exception requires the prior approval of the Contracting Authority.

### **7.28 Customs Duties - Contractor Importer C2611C (2007-11-30)**

As the goods to be supplied under the Contract are defence supplies, customs duties on importation to Canada may be remitted under the Tariff Item Number 9982.00.00 of the Schedule to the *Customs Tariff*.

Remission of customs duties payable may be granted under the Tariff Item Number 9982.00.00 when the total contract value of the defence supplies is C\$250,000 or more. This reflects the import value of the goods plus the duty that would be applicable in the absence of the *Customs Tariff*.

The Contractor will be responsible for pre-arranging remission on importation or for paying customs duties on importation and applying to Canada Border Services Agency for a refund. The Contractor is also responsible for applying to Public Works and Governments Services Canada in good time for the certification required by the *Customs Tariff*.

Solicitation No. - N° de l'invitation  
W8476-185848  
Client Ref. No. - N de rf. du client  
W8476-185848

Amd. No. - N de la modif.  
File No. - N du dossier  
030qfW8476-185848

Buyer ID - Id de l'acheteur  
030qf  
CCC No./N CCC - FMS No./N VME

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## ANNEX A

### STATEMENT OF WORK

#### Remote Operated Vehicle (ROV)

This documents consists of this page plus ninety-one (91) additional pages

STATEMENT OF WORK  
FOR THE  
HIGH RISK SEARCH REMOTELY OPERATED VEHICLE SYSTEM



NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document shall continue to apply.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

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## 1.0 SCOPE

### 1.1 Purpose

- 1.1.1 The purpose of this Statement of Work (SOW) is to define the work requirements for the High Risk Search Remotely Operated Vehicle System (HRS-ROV), a combination of ROVs, one small and one large, which will be used by the Canadian Armed Forces (CAF) field engineer sections in the roles of intermediate and advanced search teams.

### 1.2 Background

- 1.2.1 Both intermediate and advanced search teams will be deployed in support of Battle Groups during overseas and domestic missions. The role of the intermediate search teams will be filled by the field engineer sections that will operate with the maneuver elements of the Battle Group. Advanced teams will be deployed on deliberate search operations or called forward as a result of discoveries made by intermediate search teams involving too high a risk for an intermediate team.

### 1.3 Intended Use

- 1.3.1 The HRS-ROV will need to be man-portable and quickly deployable. They will need to be able to climb stairs, navigate culverts, and operate in a non-line of sight manner and in close spaces.
- 1.3.2 As stated, a combination of ROVs, Small ROV System and Large ROV System, will be the best approach to address the task-specific balance of weight, payload and mobility. These ROVs will need to act as mobile communication relays for each other, in a mesh-type network, to assist with communication connection in subterranean or reinforced concrete buildings, which is generally very disruptive to most communications systems.
- 1.3.3 **Small ROV System** – will be used primarily for its optics, to identify and mitigate threats, and will be capable of target identification but not necessarily manipulation.
- 1.3.4 **Large ROV System** – will be used primarily for its optics and to manipulate small objects in order to investigate and identify threats. This could apply to opening locked doors, moving obstacles, and being able to interrogate an identified threat by the Explosive Ordnance Disposal team should they take over control.

### 1.4 Acronyms and Abbreviations

ABCA	America, Britain, Canada, Australia
CAF	Canadian Armed Forces
CCS	Control and Communication System
CDRL	Contract Data Requirements List
CFB	Canadian Forces Base
CFTO	Canadian Forces Technical Order
CAF	Canadian Armed Forces
CNCGL	Controlled & Non-Controlled Goods List
DID	Data Item Description

DMC	Demilitarization Code
DND	Department of National Defence
DPA	Defence Product Act
ECL	Export Control List
ECCN	Export Control Classification Number
EHS	Environmental Health and Safety
HRS-ROV	High Risk Search Remotely Operated Vehicle System
IAW	In Accordance With
ILS	Integrated Logistics Support
ILSM	Integrated Logistics Support Manager
IP	Intellectual Property
IPC	Initial Provisioning Conference
ITAR	International Traffic in Arms Regulations
MSDS	Material Safety Data Sheet
NATO	North Atlantic Treaty Organization
NCAGE	NATO Commercial and Government Entity
NDID	National Defence Index of Documentation
NSN	NATO Stock Number
PA	Procurement Authority
PPB	Provisioning Parts Breakdown
PSPC	Public Services and Procurement Canada
R&O	Repair & Overhaul
ROV	Remotely Operated Vehicle
SOW	Statement of Work
SPTD	Supplementary Provisioning Technical Documentation
STTE	Special Tools and Test Equipment
TA	Technical Authority
TLAD	Top Level Assembly Drawing
USML	United States Munitions List

## 2.0 APPLICABLE DOCUMENTS

### 2.1 References

2.1.1 Whereas mentioned, the following Standards must be used for the preparation of deliverables to the extent specified in this SOW:

#### GOVERNMENT FURNISHED INFORMATION

<u>REFERENCE NUMBER</u>	<u>PROMULGATION DATE</u>	<u>REFERENCE TITLE</u>
C-01-100-100/AG-008	2017-11-02	WRITER'S GUIDE FOR TECHNICAL DOCUMENTATION
C-02-007-000/AG-001	2016-01-01	CONTROLLED TECHNOLOGY ACCES AND TRANSFER (CTAT) MANUAL
D-01-100-204/SF-000	2000-10-31	SPECIFICATION - PREPARATION OF PREVENTIVE MAINTENANCE INSTRUCTIONS
D-01-100-205/SF-000	2000-10-31	SPECIFICATION - PREPARATION OF CORRECTIVE MAINTENANCE INSTRUCTION
D-01-100-207/SF-002	1996-07-12	SPECIFICATION - PREPARATION OF INTERIM ILLUSTRATED PARTS MANUALS FOR LAND EQUIPMENTS
D-01-100-214/SF-000	2002-05-01	SPECIFICATION FOR PREPARATION OF PROVISIONING DOCUMENTATION FOR CANADIAN FORCES EQUIPMENT
D-01-400-001/SG-000	2018-01-31	STANDARD - ENGINEERING DRAWING PRACTICES FOR CLASS 1 DRAWINGS AND TECHNICAL DATA LIST
D-01-400-002/SF-000	2018-02-23	SPECIFICATION LEVELS OF ENGINEERING DRAWINGS
D-02-002-001/SG-001	2003-04-01	STANDARD – IDENTIFICATION MARKING OF CANADIAN MILITARY PROPERTY
D-LM-008-001/SF-001	1983-02-03	METHODS OF PACKAGING
D-LM-008-002/SF-001	1991-08-01	SPECIFICATION FOR MARKING FOR STORAGE AND SHIPMENT
D-LM-008-011/SF-001	1988-11-10	PREPARATION AND USE OF PACKAGING REQUIREMENTS CODES

**COMMERCIALLY AVAILABLE**

<u>REFERENCE NUMBER</u>	<u>PROMULGATION DATE</u>	<u>REFERENCE TITLE</u>
DAOD 3026-0	2012-05-04	RADIO FREQUENCY SAFETY
DAOD 3026-1	2012-05-04	RADIO FREQUENCY SAFETY PROGRAM
FED-STD-595C	2008	COLORS USED IN GOVERNMENT PROCUREMENT
SAFETY CODE 6	(HEALTH CANADA)	LIMITS OF HUMAN EXPOSURE TO RADIOFREQUENCY FIELDS IN THE FREQUENCY RANGE FROM 3 KHZ TO 300 GHZ
MIL-STD-461F	2007	REQUIREMENTS FOR THE CONTROL OF ELECTROMAGNETIC INTERFERENCE CHARACTERISTICS OF SUBSYSTEMS AND EQUIPMENT
MIL-STD-464C	2010	ELECTROMAGNETIC ENVIRONMENTAL EFFECTS REQUIREMENTS FOR SYSTEMS
NEMA IEC 60529		DEGREES OF PROTECTION PROVIDED BY ENCLOSURES - IP CODE
SOR/99-7	1998	OZONE-DEPLETING SUBSTANCES REGULATIONS, 1998
STANAG 4694	2011	NATO ACCESSORY RAIL

**2.2 Order of Precedence**

- 2.2.1 In the event of conflict between the content in this SOW and the referenced documents, the content of this SOW will take precedence.

### 3.0 PROJECT MANAGEMENT

#### 3.1 Project Management Program

- 3.1.1 The Contractor must designate a Project Manager with the responsibilities to coordinate, execute, and manage the Contractor's project management activities for the Contract. The Contractor's Project Manager must have the total responsibility for all works required under the Contract.
- 3.1.2 The Contractor's Project Manager must be the primary point of contact between the Contractor and the DND Technical Authority and the PSPC Contracting Authority for all issues related to the Contract.

#### 3.2 Contract Status Report

- 3.2.1 The Contractor must provide a **Contract Status Report** (CSR) in accordance with (IAW) Contract Data Requirement List (CDRL) HRS-ROV-PM-001 at Appendix A4.3 (page 38) to ANNEX A and its associated Data Item Delivery (DID) HRS-ROV-PM-001 at Appendix A5.3 (page 58) to ANNEX A.

#### 3.3 Project Meetings

- 3.3.1 Meeting Organization and Coordination
  - 3.3.1.1 The Contractor's Project Manager must be present at the Kick-off Meeting, and at other meetings when requested by Canada. If the Project Manager does not have final approval authority for decision making and changes, then the person that has that final approval authority must also be present.
- 3.3.2 Kick-off Meeting
  - 3.3.2.1 The Contractor must hold and chair a Kick-off Meeting (at the Contractor's facility) no later than twenty-one (21) calendar days after contract award to review and secure a common understanding of the requirements expressed in the following:
    - 3.3.2.1.1 The Contract;
    - 3.3.2.1.2 The SOW;
    - 3.3.2.1.3 General overview of the project, risks, schedule and communication channels to follow, and
    - 3.3.2.1.4 Other contractual and programmatic issues associated with the project as agreed between the TA, CA and the Contractor.
  - 3.3.2.2 During the Kick-off Meeting, the Contractor must provide a Top Level Assembly Drawing (TLAD) IAW CDRL HRS-ROV-ILS-201 at Appendix A4.6 (page 41) and its associated DID HRS-ROV-ILS-201 at Appendix A5.6 (page 63) to this ANNEX A.
  - 3.3.2.3 Refer to Meeting Documentation requirements found at ANNEX A para. 3.3.5.
- 3.3.3 Integrated Logistics Support (ILS) Meeting

- 3.3.3.1 The Contractor must hold and chair an ILS Meeting following the closure of the Kick-Off Meeting (see 3.3.2), in order to review and secure a common understanding of the requirements expressed in the ILS CDRLs and DIDs, DND Canadian Forces Technical Orders (CFTO)s and specifications.
- 3.3.3.2 Refer to Meeting Documentation requirements found at ANNEX A para. 3.3.5.
- 3.3.4 Other meetings
  - 3.3.4.1 The Contractor and the TA may schedule informal reviews, such as teleconferences, video conferences, briefings and technical interchange meetings, as required to help achieve the requirements of the Contract.
- 3.3.5 Meeting Documentation
  - 3.3.5.1 The Contractor must prepare and deliver a meeting agenda for all formal meetings and conferences, and prepare and deliver the meeting minutes afterwards.
    - 3.3.5.1.1 The Contractor must provide the **Meeting Agenda(s)** IAW CDRL HRS-ROV-PM-002 at Appendix A4.4 (page 39) to ANNEX A and its associated DID HRS-ROV-PM-002 at Appendix A5.4 (page 60) to ANNEX A.
    - 3.3.5.1.2 The Contractor must record, prepare, and provide the **Meeting Minutes** of each meeting IAW CDRL HRS-ROV-PM-003 at Appendix A4.5 (page 40) to ANNEX A and its associated DID HRS-ROV-PM-003 at Appendix A5.5 (page 62) to ANNEX A.
  - 3.3.5.2 No change in the interpretation of the SOW, Performance Specification, cost, and schedule, as defined in the Contract, may be authorized by the minutes of a meeting. Such action will require formal contract amendment by the CA.

## 4.0 INTEGRATED LOGISTICS SUPPORT (ILS)

### 4.1 Maintenance Concept

- 4.1.1 The HRS-ROV will be maintainable by CAF operators and technicians in a field environment as prescribed for each item of equipment:
- 4.1.1.1 **Operator Maintenance** – consisting of maintenance that will not require Special Tools and Test Equipment (STTE) to complete, as well as equipment cleaning. Task duration generally less than one (1) hour.
  - 4.1.1.2 **Technician Maintenance** – consisting of preventive and minor corrective maintenance tasks by repair or replacement of parts, and could require STTE to complete this maintenance. Task duration generally less than four (4) hours.
- 4.1.2 The more in-depth maintenance tasks, consisting of corrective maintenance tasks, reconditioning of assemblies and component rebuilds, will be done through the support contract.

### 4.2 Instruments, Decals, Data Plates and Warnings

- 4.2.1 The Contractor must deliver all instruments, decals and data plates marked in metric units.
- 4.2.2 Where international symbols are not possible, the Contractor must provide bilingual markings in English and Canadian French, as per paragraph 4.4.5.
- 4.2.3 The Contractor must provide warning and precautionary data plates in both official languages of Canada (English and Canadian French) in order to protect personnel and equipment, as per paragraph 4.4.5.

### 4.3 Application for Spectrum Supportability

- 4.3.1 For the Large ROV System and Small ROV System RF components (Transmitting and Receiving), the Contractor must provide the **Application for Spectrum Supportability** IAW CDRL HRS-ROV-ILS-202 at Appendix A4.7 (page 42) to Annex A, and its associated DID HRS-ROV-ILS-202 at Appendix A5.7 (page 64) to this ANNEX A and ANNEX D – Application for Spectrum Supportability.
- 4.3.1.1 The RF components must be certified by Industry Canada or meet Spectrum Supportability. Spectrum Supportability is granted when RF equipment is found to be in conformity with National Spectrum Policy and Standards to ensure compatibility with existing RF equipment, both military and civilian, currently operating in the same frequency band. DND policy, standards, and organization for spectrum management and instructions for obtaining frequency supportability and licensing can be found in B-GT-D35-001/AG-000 (DNDP 35) Management of the Radio Frequency Spectrum. National Spectrum Policy and Standards can be found on Industry Canada's website (<http://www.ic.gc.ca>) at:

- 4.3.1.1.1 [http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h\\_sf01841.html](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf01841.html).

#### 4.4 Technical Publication Package

4.4.1 The Contractor must prepare and deliver the following Technical Publications:

4.4.1.1 Operator Manual

4.4.1.1.1 The Contractor must provide an **Operator Manual** IAW CDRL HRS-ROV-ILS-203 at Appendix A4.8 (page 43) and its associated DID HRS-ROV-ILS-203 at Appendix A5.8 (page 65) to this ANNEX A, for each of the following components:

4.4.1.1.1.1 Small Remotely Operated Vehicle System (Small ROV System)

4.4.1.1.1.2 Large Remotely Operated Vehicle System (Large ROV System)

4.4.1.2 Operator Quick Reference Card

4.4.1.2.1 The Contractor must provide an **Operator Quick Reference Card** IAW CDRL HRS-ROV-ILS-204 at Appendix A4.9 (page 44) and its associated DID HRS-ROV-ILS-204 at Appendix A5.9 (page 67) to ANNEX A, for each of the following components:

4.4.1.2.1.1 Small Remotely Operated Vehicle System (Small ROV System)

4.4.1.2.1.2 Large Remotely Operated Vehicle System (Large ROV System)

4.4.1.3 Repair Manual

4.4.1.3.1 The Contractor must provide a **Repair Manual** IAW CDRL HRS-ROV-ILS-205 at Appendix A4.10 (page 45) and its associated DID HRS-ROV-ILS-205 at Appendix A5.10 (page 69) to this ANNEX A, for each of the following components:

4.4.1.3.1.1 Small Remotely Operated Vehicle System (Small ROV System)

4.4.1.3.1.2 Large Remotely Operated Vehicle System (Large ROV System)

4.4.1.4 Illustrated Parts Manual

4.4.1.4.1 The Contractor must provide an **Illustrated Parts Manual** IAW CDRL HRS-ROV-ILS-206 at Appendix A4.11 (page 46) and its associated DID HRS-ROV-ILS-206 at Appendix A5.11 (page 71) to this ANNEX A.

4.4.1.4.2 The Illustrated Parts Manual does not need to be provided in Canadian French.

4.4.1.5 Operator Training Package

4.4.1.5.1 The Contractor must provide an **Operator Training Package** IAW CDRL HRS-ROV-ILS-207 at Appendix A4.12 (page 47) and its associated DID HRS-ROV-ILS-207 at Appendix A5.12 (page 73) to ANNEX A.

- 4.4.1.6 Technician Training Package
  - 4.4.1.6.1 The Contractor must provide a **Technician Training Package** IAW CDRL HRS-ROV-ILS-208 at Appendix A4.13 (page 48) and its associated DID HRS-ROV-ILS-208 at Appendix A5.13 (page 75) to ANNEX A.
- 4.4.2 Front Matter
  - 4.4.2.1 The Contractor must include the following in each Technical Publication:
    - 4.4.2.1.1 A cover page (a template of which will be provided by the ILSM) showing the date the publication was issued and the model/system designation;
    - 4.4.2.1.2 A List of Effective Pages;
    - 4.4.2.1.3 A Revision Control Table;
    - 4.4.2.1.4 A detailed Table of Contents and List of Figures & Tables; and
    - 4.4.2.1.5 An Acronyms and Abbreviations table
- 4.4.3 Supplementary Information
  - 4.4.3.1 The Contractor must provide supplementary information, in the portions of text that require it, with one or more of the following notices, in the order listed:
    - 4.4.3.1.1 **Danger.** The danger advisory will be used to draw attention to an extreme, violent and continuous hazard to life;
    - 4.4.3.1.2 **Warning.** The warning advisory will be used to emphasize an operating or maintenance procedure, practice, condition, statement, which if not strictly observed, could result in injury to or death of personnel;
    - 4.4.3.1.3 **Caution.** The caution advisory will be used to emphasize an operating or maintenance procedure, practice, condition, statement, which if not strictly observed, could result in maintenance, damage to or destruction of equipment, loss of mission effectiveness or long-term health hazards to personnel;
    - 4.4.3.1.4 **Note.** The note will be used to point out a procedure, event or practice that it is desirable to highlight; and,
    - 4.4.3.1.5 **Example.** The example will be used when required to clarify the preceding text.
- 4.4.4 Copyright - Foreground and Background Information
  - 4.4.4.1 The Contractor must incorporate the copyright symbol and one of the following notices into the Technical Publications, for all Foreground and Background information that is subject to copyright regardless of the form or medium upon which it is recorded:
    - 4.4.4.1.1 Intellectual Property (IP) in Foreground that belongs to the Contractor: “© (insert year) (insert IP owner). This deliverable was delivered under

Contract no. XXXX and contains Foreground Intellectual Property (IP). Her Majesty the Queen in Right of Canada has a royalty-free and perpetual license to the IP and is permitted to use, reproduce, modify, and translate, including authorizing contractors to reproduce, modify, and translate, in whole or in part the deliverable for all government purposes including competitive tendering. Refer to the contract terms for additional details as required.”

- 4.4.4.1.2 Intellectual Property (IP) in Background Information: “© (insert year) (insert IP owner). This deliverable was delivered under Contract no. XXXX and contains Background Intellectual Property (IP). Her Majesty the Queen in Right of Canada has a royalty-free and perpetual license to the Background IP for the purpose of exercising its rights in the Contract deliverables and Foreground Information. The license includes the rights to use, reproduce, modify, and translate this deliverable, and further includes the right to authorize others to use, reproduce, modify, and translate, in whole or in part the deliverable for all government purposes including competitive tendering. Refer to the contract terms for additional details as required.”

#### 4.4.5 Official Language Requirements

- 4.4.5.1 The Contractor must deliver all Technical Publications in English and Canadian French (unless indicated above).
- 4.4.5.2 The Contractor must have all Technical Publications translated by certified translators, such as members of an authorized provincial association of translators, to ensure the quality of translated text.
- 4.4.5.3 The Contractor must ensure all translations are consistent with approved DND terminology. Approved terminology sources, in order of priority, are as follows:
- 4.4.5.3.1 Canadian Oxford Dictionary Second Edition (for English);
- 4.4.5.3.2 Le Petit Robert Edition 2017 (for French); and
- 4.4.5.3.3 Termium, PSPC Translation Bureau Linguistic Data Bank (<http://www.termiumpius.gc.ca/>);
- 4.4.5.4 The Contractor must review and accept responsibility for the validity of all (both their own and all sub-Contractors) information found in the Technical Publications.

### 4.5 Provisioning Documentation

- 4.5.1 The Contractor must prepare and deliver the following Provisioning Documentation:
- 4.5.1.1 Provisioning Parts Breakdown
- 4.5.1.1.1 The Contractor must provide a **Provisioning Parts Breakdown** IAW CDRL HRS-ROV-ILS-209 at Appendix A4.14 (page 49) and its associated DID HRS-ROV-ILS-209 at Appendix A5.14 (page 77) to this ANNEX A.

- 4.5.1.2            Supplementary Provisioning Technical Documentation
  - 4.5.1.2.1            The Contractor must provide **Supplementary Provisioning Technical Documentation** IAW CDRL HRS-ROV-ILS-210 at Appendix A4.15 (page 50) and its associated DID HRS-ROV-ILS-210 at Appendix A5.15 (page 80) to this ANNEX A.
- 4.5.1.3            Special Tools and Test Equipment List
  - 4.5.1.3.1            The Contractor must provide a **Special Tools and Test Equipment List** IAW CDRL HRS-ROV-ILS-211 at Appendix A4.16 (page 51) and its associated DID HRS-ROV-ILS-211 at Appendix A5.16 (page 82) to this ANNEX A.

#### 4.6 Initial Provisioning Conference

- 4.6.1            The Contractor must hold and chair an Initial Provisioning Conference (IPC). The IPC will occur after the Contractor has delivered Provisioning Documentation suitable for a successful IPC as determined by the DND ILS Manager.
- 4.6.2            The purpose of an IPC is to allow DND to verify that the Provisioning Documentation reflects the current and complete configuration of the equipment being procured by comparing it against the Illustrated Parts Manual and SPTD, and to select the range of spares required to support the system during an initial period of service of two years. For this purpose, the Contractor must provide:
  - 4.6.2.1            A suitable conference facility;
  - 4.6.2.2            Engineering and product support assistance;
  - 4.6.2.3            The equipment for physical examination;
  - 4.6.2.4            Engineering, reliability and maintainability data; and
  - 4.6.2.5            Modification data, if applicable.
- 4.6.3            Refer to Meeting Documentation requirements found at ANNEX A para. 3.3.5.

#### 4.7 Identification Plates

- 4.7.1            The Contractor must provide **Identification Plates – Design Template & Populated Designs** IAW CDRL HRS-ROV-ILS-212 at Appendix A4.17 (page 52) and its associated DID HRS-ROV-ILS-212 at Appendix A5.17 (page 84) to this ANNEX A.
- 4.7.2            The Contractor must attach Identification Plates to the following components for ease of tracking within the Canadian Forces Supply System:
  - 4.7.2.1            Prime Equipment;
  - 4.7.2.2            Spares;
  - 4.7.2.3            STTE;

- 4.7.2.4 Training Equipment;
- 4.7.2.5 Transportation, Shipping, Storage Containers that are not single-use;
- 4.7.2.6 Support Equipment (excluding common tools), and
- 4.7.2.7 Automatic Test Equipment.

#### 4.8 **Controlled & Non-Controlled Goods List**

- 4.8.1 Contractor must provide the **Controlled & Non-Controlled Goods List** with the Demilitarization Code (DMC) IAW HRS-ROV-ILS-213 at Appendix A4.18 (page 53) and its associated DID HRS-ROV-ILS-213 at Appendix A5.18 (page 86) to this ANNEX A.

#### 4.9 **Packaging, Labels and Codes**

- 4.9.1 The Contractor must supply all parts and equipment, packaged and packed as per D-LM-008-001/SF-001 following:
  - 4.9.1.1 Level B Limited Military Package;
  - 4.9.1.2 Level B Limited Military Pack;
- 4.9.2 The Contractor must label all packaging, produced under 4.9.1 above, as per D-LM-008-002/SF-001, using D-LM-008-011/SF-001 to prepare the required codes for packaging and preservation.
- 4.9.3 The Contractor must provide **Packaging, Labels and Codes** IAW CDRL HRS-ROV-ILS-214 at Appendix A4.19 (page 54) to Annex A, and its associated DID HRS-ROV-ILS-214 at Appendix A5.19 (page 88) to this ANNEX A.

#### 4.10 **Repair and Overhaul Plan**

- 4.10.1 The Contractor must provide a **Repair and Overhaul Plan** IAW CDRL HRS-ROV-ILS-215 at Appendix A4.20 (page 55) to Annex A, and its associated DID HRS-ROV-ILS-215 at Appendix A5.20 (page 90) to this ANNEX A.

#### 4.11 **Training Sessions**

- 4.11.1 The Contractor must provide the Training Sessions after delivery of the first HRS-ROV.
  - 4.11.1.1 Scheduling of the Training Sessions will be done after contract award, and jointly planned between the DND and the Contractor.
- 4.11.2 The Contractor must provide Training Sessions consisting of:
  - 4.11.2.1 Operator Training Session (train-the-trainer type) given to from one (1) to 20 students per course, with course length of two (2) days.
  - 4.11.2.2 Operator Training Session (train-the-trainer type) given to from one (1) to 20 students per course, with course length of one (1) day (shortened course length as training session won't include training on the Large ROV System).

- 4.11.2.3 Technician Training Session (train-the-trainer type) given to from one (1) to 5 students per course, with course length of two (2) days.
- 4.11.2.4 Technician Training Session (train-the-trainer type) given to from one (1) to 5 students per course, with course length of one (1) day (shortened course length as training session won't include training on the Large ROV System).
- 4.11.3 The Contractor must provide the Training Sessions in English, by a bilingual instructor in order for the instructor to understand and answer questions from the class in both official languages; English and Canadian French.
- 4.11.4 The Contractor must provide instructor(s) that are Subject Matter Experts on the HRS-ROV equipment being provided.
- 4.11.5 The Contractor must use the approved and accepted **Operator and Technician Training Packages** for the Training Sessions, and course lessons must follow the content found within those training packages.
- 4.11.6 The Contractor must provide the course material listed within the **Operator and Technician Training Package** CDRLs as being 'Issued to Students at Training Session(s)', and all course material and handouts must be provided in English and Canadian French.
- 4.11.7 The Contractor must use the HRS-ROV and additional training material identified in the **Operator and Technician Training Package Instructor Lesson Plan**, for the Training Session.
  - 4.11.7.1 The Contractor must provide the additional training material that is listed in the **Operator and Technician Training Package Instructor Lesson Plan** as 'supplied by the Contractor'.
  - 4.11.7.2 The Contractor must set-up the HRS-ROV and additional training material that is listed in the **Operator and Technician Training Package Instructor Lesson Plan** as 'supplied by the Contractor', for the Training Session.

#### 4.12 Data Deliverable Format

- 4.12.1 Unless otherwise specified as a specific requirement, the Contractor must deliver all of the soft copies of data deliverables, in formats compatible with the office software currently in use by the DND as listed:
  - 4.12.1.1 Microsoft (MS) Windows 7 Enterprise Operating System (OS), Service Pack 1;
  - 4.12.1.2 MS Internet Explorer (IE) 9.0 with 256 Bit Encryption;
  - 4.12.1.3 MS Office Professional Plus 2013 (Word, Excel, Access, PowerPoint and Outlook);
  - 4.12.1.4 Adobe Acrobat X; and
  - 4.12.1.5 WinZip 8.1 SR-1;

## **5.0 ENVIRONMENTAL HEALTH AND SAFETY**

### **5.1 General**

- 5.1.1 Environmental Health and Safety (EHS) consideration must be incorporated and documented into the decision making process for the Work performed under this Contract. EHS documentation must be maintained within the project file throughout the life of this Contract. The Contractor must provide for and allow DND inspection and monitoring of EHS documentation throughout the life of the contract.
- 5.1.2 Polychlorinated Biphenyls (PCBs), halocarbons (as identified within the Ozone-Depleting Substances Regulations, 1998), and asbestos are not to be incorporated into the design, operation and maintenance of the equipment, and products used in equipment support activities.
- 5.1.3 The Contractor must identify and report all sources of mercury contained and used within the design, operation and maintenance of the equipment, and products used in equipment support activities.
- 5.1.4 The Department is committed to the Federal programs to reduce and eliminate emissions from toxic substances. Contractors must identify and submit justifications for the use of all regulated products and those containing substances identified within the Accelerated Reduction/Elimination of Toxics (ARET, <http://www.ec.gc.ca/nopp/aret/en/list.cfm>), National Pollutant Release Inventory (NPRI, [http://www.ec.gc.ca/pdb/npri/npri\\_home\\_e.cfm](http://www.ec.gc.ca/pdb/npri/npri_home_e.cfm)) and List of Challenge Substances ([http://www.chemicalsubstanceschimiques.gc.ca/challenge-defi/list\\_e.html](http://www.chemicalsubstanceschimiques.gc.ca/challenge-defi/list_e.html)), and also for products containing heavy metals (heavy metals are those identified within Schedule 1 of the Canadian Environmental Protection Act (CEPA)) to the technical authority for approval.
- 5.1.5 Canada Labour Code, Part II dictates that the least hazardous materials should be used at the workplace. Therefore, the Contractor is to strive to use the least hazardous product that meets the requisite performance requirements.
- 5.1.6 The Contractor must incorporate EHS warnings and instructions in direct relation of the EHS risks presented in the contents into documentation.
- 5.1.7 It is the Contractor's responsibility to ensure that specifications, standards, support documents and test programs are reviewed for EHS compliance.

### **5.2 Environmental Management System**

- 5.2.1 The Contractor must have a management system in place to control environmental, health and safety impacts resulting from their activities, products and services.
- 5.2.2 The Contractor must have a formalized set of procedures and control measures in place to achieve conformance with the requirements of this Work, while ensuring environmental, health and safety protection and pollution prevention.
- 5.2.3 The Contractor must also make reasonable effort to monitor that all subcontractors are in compliance with applicable environmental laws and regulations.

### 5.3 EHS Packaging Labels and MSDS

- 5.3.1 The Contractor must label and ship goods falling within the Hazardous Products Act, R.S.C. 1985, c. H-3 and regulation(s) there under, in accordance with the said Act and regulation(s).
  - 5.3.1.1 The Contractor must ship goods accompanied by the required Material Safety Data Sheet(s) (MSDS), completed in either English or Canadian French.
  - 5.3.1.2 The Contractor must clearly identify the contents of the hazardous material with labels, and the MSDS must explain what those hazards are.

## **6.0 TECHNICAL REQUIREMENTS**

### **6.1 Overview**

6.1.1 The Contractor must comply with all specified requirements for each component of the HRS-ROV, stated in:

6.1.1.1 A1.0 APPENDIX: SMALL ROV SYSTEM TECHNICAL SPECIFICATION

6.1.1.2 A2.0 APPENDIX: LARGE ROV SYSTEM TECHNICAL SPECIFICATION

## A1.0 APPENDIX: SMALL ROV SYSTEM TECHNICAL SPECIFICATION

### A1.1 System Requirements

#### A1.1.1 General

- A1.1.1.1 The Small Remotely Operated Vehicle System (Small ROV System) must be based on proven, fielded equipment, which is in-service with a North Atlantic Treaty Organization (NATO) or American, British, Canadian, Australian (ABCA) military partner or police agency of those countries.
- A1.1.1.2 The Small ROV System must consist of the following components, and is further described in detail under the **System Component Requirements** section:
  - A1.1.1.2.1 One (1) Small ROV;
  - A1.1.1.2.2 One (1) Control and Communication System (CCS) for operating both the Small ROV and Large ROV (same CCS used for both ROVs);
  - A1.1.1.2.3 Battery Set(s) for six (6) hours of operation for both the CCS and Small ROV;
  - A1.1.1.2.4 One (1) Battery Charging System;
  - A1.1.1.2.5 One (1) Drop Charge Release Mechanism, and
  - A1.1.1.2.6 One (1) Hard Transport Container for the above components.
- A1.1.1.3 The Small ROV System must include (stored within the Hard Transport Container) all tools required to setup and maintain the Small ROV System in accordance with the **Operator Maintenance** Concept ANNEX A paragraph 4.1.1.1 (page 11).
- A1.1.1.4 The Small ROV System must include (stored within the Hard Transport Container without needing to be folded or otherwise distorted from flat) the Technical Publication(s) listed within the CDRL(s) as being 'Issued with each Small ROV System'.

#### A1.1.2 Transportability

- A1.1.2.1 The Small ROV System must be transportable with no more than 10 minutes preparation time.
- A1.1.2.2 The Small ROV System must be transportable by fixed and rotary wing aircraft, cargo ships, rail, and commercial and military wheeled vehicles on highways and cross-country.

#### A1.1.3 Radio Frequency Operation and Safety

- A1.1.3.1 The Small ROV System must operate within either:
  - A1.1.3.1.1 The commercial 2.4GHz bandwidth, or

A1.1.3.1.2            The 4400-4900 MHz bandwidth (the 4800-4900MHz bandwidth section is currently the most open, so would be the preference) which is designated for Government of Canada use.

A1.1.3.2            The Small ROV System must meet requirements of DND/CAF RF Safety Program IAW DAOD 3026-0, DAOD 3026-1 and CFTO C-55-040-001TS-002, and it must be in compliance with the requirements of Health Canada's Safety Code 6: Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz.

A1.1.4            **Electromagnetic Interference**

A1.1.4.1            The Small ROV System must comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules.

**A1.2 System Component Requirements**

A1.2.1            **Small ROV**

A1.2.1.1            Mobile Communication Relay

A1.2.1.1.1            The Small ROV must continually act as a mobile RF communication relay, in a mesh-type network, to assist with communication connection with other Small ROVs and Large ROVs in a non-line-of-sight, subterranean, or reinforced concrete buildings, or to extend the range in line-of-sight applications.

A1.2.1.2            Durability, Ingress Protection and Cleaning

A1.2.1.2.1            The Small ROV must survive multiple drops from a height of no less than three (3) meters onto natural soil, and remain fully functional.

A1.2.1.2.1.1            This will include drops in horizontal body orientation only.

A1.2.1.2.1.2            No payloads or attachments will be attached to the Small ROV during the drops.

A1.2.1.2.2            The Small ROV, not including the Drop Charge Release Mechanism, must have no less than an IP67 rating, or equivalent, IAW NEMA IEC 60529.

A1.2.1.2.3            The Small ROV must allow cleaning of the exterior surfaces with hot and cold low pressure water, steam and detergents, without wear, deterioration or damage.

A1.2.1.3            Velocity

A1.2.1.3.1            The Small ROV must maintain an average velocity of no less than five (5) km/h on a level pavement or concrete surface.

A1.2.1.4            Mobility

- A1.2.1.4.1 The Small ROV must climb and descend from obstacles (such as a road curb) of no less than a 10 cm rise while carrying the minimum payload weight, see ANNEX A para. A1.2.1.6.2 (page 23).
- A1.2.1.4.2 The Small ROV must traverse a dry grass-covered slope of no less than 15 degrees (26.8% grade) while carrying the minimum payload weight, see ANNEX A para. A1.2.1.6.2 (page 23).
- A1.2.1.4.3 The Small ROV must climb and descend dry grass-covered slopes of no less than 30 degrees (57.7% grade) while carrying the minimum payload weight, see ANNEX A para. A1.2.1.6.2 (page 23).
- A1.2.1.5 Automatic Brake
  - A1.2.1.5.1 The Small ROV must hold position when not commanded to move, including when the Small ROV is stopped on uneven ground or slopes and while carrying the minimum payload weight, see ANNEX A para. A1.2.1.6.2 (page 23).
- A1.2.1.6 Payload and Mount
  - A1.2.1.6.1 The Small ROV must include a tactical rail meeting STANAG 4694 to provide an anchor point for payloads.
  - A1.2.1.6.2 The Small ROV must carry no less than a 2.0kg payload weight.
- A1.2.1.7 Field of View
  - A1.2.1.7.1 The Small ROV must have an **overall** front field of view with:
    - A1.2.1.7.1.1 No less than a 60 degree horizontal field of view.
    - A1.2.1.7.1.2 No less than a 120 degree vertical field of view.
      - 1.2.1.7.1.2.1 If required, the vertical field of view range can be met by either the camera tilting, the Small ROV body tilting, or through a software-based tilt.
  - A1.2.1.7.2 The Small ROV must have an **overall** rear field of view with:
    - A1.2.1.7.2.1 No less than a 60 degree horizontal field of view.
    - A1.2.1.7.2.2 No less than a 60 degree vertical field of view.
      - 1.2.1.7.2.2.1 If required, the vertical field of view range can be met by either the camera tilting, the Small ROV body tilting, or through a software-based tilt.
- A1.2.2 Control and Communication System
  - A1.2.2.1 Communication with Small ROV
    - A1.2.2.1.1 Line-of-Sight - The CCS must maintain communication with and control of the Small ROV at a distance of no less than 200 meters on open terrain.

- A1.2.2.2 Control Small and Large ROV
  - A1.2.2.2.1 The CCS must be identical to the CCS used to control the Large ROV, and must switch between and operate either the Small ROV or Large ROV.
  - A1.2.2.2.2 The CCS, when not controlling a ROV, must display camera images from any other selected ROV within the mesh-type network.
- A1.2.2.3 Additional requirements for the Control and Communication System are found under para. A2.2.2 (page 29) for the Large ROV system.
- A1.2.3 Battery Set(s)
  - A1.2.3.1 Each Battery Set of the CCS and Small ROV must provide no less than one (1) hour of operation at an approximate ideal temperature of 20°C (+/- 3 °C). Operation is defined as:
    - A1.2.3.1.1 Power-on and initialization sequence of the Small ROV and CCS.
    - A1.2.3.1.2 Movement of the Small ROV 'down range' for 100m, with periodic movements throughout the majority of the one (1) hour, and then returning back for 100m before the one (1) hour has expired, and
    - A1.2.3.1.3 Continuous video transmission (small fluctuations allowed) between the Small ROV and CCS throughout the one (1) hour.
  - A1.2.3.2 Enough Battery Sets for six (6) hours of operation must be provided for both the CCS and Small ROV.
- A1.2.4 Battery Charging System
  - A1.2.4.1 The Battery Charging System must be provided for both the CCS and Small ROV Battery Sets.
  - A1.2.4.2 The Battery Charging System must include a universal power input of 110VAC – 220VAC, 50Hz – 60Hz, with North American plug type.
  - A1.2.4.3 The Battery Charging System must provide a visual indication of battery charging in order to indicate when charging is in progress and when it is complete.
  - A1.2.4.4 The Battery Charging System full re-charge time for one (1) Battery Set must be no more than eight (8) hours.
  - A1.2.4.5 The Battery Charging System must be certified CE, UL or equivalent.
- A1.2.5 Drop Charge Release Mechanism
  - A1.2.5.1 The Drop Charge Release Mechanism must carry and actuate the physical release of a drop charge (defined as two taped blocks of C4 explosive and RF Initiator), at least 1.60kg (approx. 3.53lbs) in weight and a maximum of 6cm width x 6cm height x 30cm length (approx. 2.36 x 2.36 x 11.80 inches).

A1.2.5.2 The Drop Charge Release Mechanism must support and hold the drop charge while performing the mobility requirements of ANNEX A para. A1.2.1.4 (page 22).

A1.2.5.2.1 It is acceptable to provide a system that attaches the drop charge to a disposable plate which is itself released from the ROV.

A1.2.5.3 The Drop Charge Release Mechanism must be controllable through the CCS.

A1.2.5.4 The drop charge initiation will be accomplished through the in-service RF initiator device (Breach MC RF Initiator).

**A1.2.6 Hard Transport Container**

A1.2.6.1 The Hard Transport Container must have no less than an IP66 rating, or equivalent, IAW NEMA IEC 60529.

**A1.3 Physical Requirements**

**A1.3.1 Size**

A1.3.1.1 The Small ROV and CCS, with one (1) set of batteries each, must fit within the Soldier's Tactical Field Pack (NSN: 8465-20-000-2774).

A1.3.1.1.1 The Soldier's Tactical Field Pack (NSN: 8465-20-000-2774) has an available volume of height – 20 inches, width – 12 inches and depth – 8 inches.

**A1.3.2 Weight**

A1.3.2.1 The Small ROV and CCS, with one (1) set of batteries each, must not exceed 10.00kg in combined weight.

**A1.3.3 Colour**

A1.3.3.1 The Small ROV and CCS must have the predominant exterior colour (so that it contributes to and does not compromise a soldier's camouflage) of:

A1.3.3.1.1 Flat/matte finish green;

A1.3.3.1.2 Flat/matte finish earth tone;

A1.3.3.1.3 Flat/matte finish grey, or

A1.3.3.1.4 Flat/matte finish black.

A1.3.3.2 Items that need to be painted to meet this requirement must be painted using the following paint colours (IAW FED-STD-595C) and must have a flat/matte finish:

A1.3.3.2.1 34094 Green;

A1.3.3.2.2 30051 Brown;

- A1.3.3.2.3 33446 Dessert Tan;
- A1.3.3.2.4 34082 Green;
- A1.3.3.2.5 33105 Brown;
- A1.3.3.2.6 33303 Sand, or
- A1.3.3.2.7 Black.

#### A1.4 Environmental/Climatic Requirements

##### A1.4.1 Climatic Conditions

- A1.4.1.1 The Small ROV and CCS components must operate in temperatures ranging from -19°C to +39°C.
- A1.4.1.2 The Small ROV and CCS components must operate in relative humidity ranging from 5% to 100%.

##### A1.4.2 Atmospheric Conditions

- A1.4.2.1 The Small ROV must operate in heavy rain up to 20 mm/hr and rain driven by wind gusts up to 40 km/h over a period of no less than one (1) hour operation.
- A1.4.2.2 The Small ROV must operate in blowing sand and dust caused by wind gusts up to 40 km/h over a period of no less than one (1) hour.
- A1.4.2.3 Operation is defined as:
  - A1.4.2.3.1 Power-on and initialization sequence of the Small ROV and CCS.
  - A1.4.2.3.2 Movement of the Small ROV 'down range' for 100m, with periodic movements throughout the majority of the one (1) hour, and then returning back for 100m before the one (1) hour has expired, and
  - A1.4.2.3.3 Continuous video transmission (small fluctuations allowed) between the Small ROV and CCS throughout the one (1) hour.

## A2.0 APPENDIX: LARGE ROV SYSTEM TECHNICAL SPECIFICATION

### A2.1 System Requirements

#### A2.1.1 General

- A2.1.1.1 The Large Remotely Operated Vehicle System (Large ROV System) must be based on proven, fielded equipment, which is in-service with a North Atlantic Treaty Organization (NATO) or American, British, Canadian, Australian (ABCA) military partner or police agency of those countries.
- A2.1.1.2 The Large ROV System must consist of the following components, and is further described in detail under the **System Component Requirements** section:
  - A2.1.1.2.1 One (1) Large ROV;
  - A2.1.1.2.2 One (1) Control and Communication System (CCS) for operating both the Large ROV and Small ROV (same CCS used for both ROVs);
  - A2.1.1.2.3 Battery Set(s) for eight (8) hours of operation for both the CCS and Large ROV;
  - A2.1.1.2.4 One (1) Battery Charging System;
  - A2.1.1.2.5 One (1) Manipulator Arm and Gripper, including disrupter mounts, and
  - A2.1.1.2.6 One (1) Hard Transport Container for the above components.
- A2.1.1.3 The Large ROV System must include (stored within the Hard Transport Container) all tools required to setup and maintain the Large ROV System in accordance with the **Operator Maintenance** Concept ANNEX A paragraph 4.1.1.1 (page 11).
- A2.1.1.4 The Large ROV System must include (stored within the Hard Transport Container without needing to be folded or otherwise distorted from flat) the Technical Publication(s) listed within the CDRL(s) as being 'Issued with each Large ROV System'.

#### A2.1.2 Transportability

- A2.1.2.1 The Large ROV System must be transportable with no more than 10 minutes preparation time.
- A2.1.2.2 The Large ROV System must be transportable by fixed and rotary wing aircraft, cargo ships, rail, and commercial and military wheeled vehicles on highways and cross-country.

#### A2.1.3 Radio Frequency Operation and Safety

- A2.1.3.1 The Large ROV System must operate within either:
  - A2.1.3.1.1 The commercial 2.4GHz bandwidth, or

A2.1.3.1.2            The 4400-4900 MHz bandwidth (the 4800-4900MHz bandwidth section is currently the most open, so would be the preference) which is designated for Government of Canada use.

A2.1.3.2            The Large ROV System must meet requirements of DND/CAF RF Safety Program IAW DAOD 3026-0, DAOD 3026-1 and CFTO C-55-040-001TS-002, and it must be in compliance with the requirements of Health Canada's Safety Code 6: Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz.

A2.1.4            **Electromagnetic Interference**

A2.1.4.1            The Large ROV System must comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules.

**A2.2 System Component Requirements**

A2.2.1            **Large ROV**

A2.2.1.1            Mobile Communication Relay

A2.2.1.1.1            The Large ROV must continually act as a mobile RF communication relay, in a mesh-type network, to assist with communication connection with other Large ROVs and Small ROVs in a non-line-of-sight, subterranean, or reinforced concrete buildings, or to extend the range in line-of-sight applications.

A2.2.1.2            Fibre Optic Cable and Mount

A2.2.1.2.1            The Large ROV must carry and feed-out fibre optic cable of no less than 200m +/- 2m.

A2.2.1.3            Ingress Protection and Cleaning

A2.2.1.3.1            The Large ROV must have no less than an IP65 rating, or equivalent, IAW NEMA IEC 60529.

A2.2.1.3.2            The Large ROV must allow cleaning of the exterior surfaces with hot and cold low pressure water, steam and detergents, without wear, deterioration or damage.

A2.2.1.4            Velocity

A2.2.1.4.1            The Large ROV must maintain an average velocity of no less than five (5) km/h on a level pavement or concrete surface.

A2.2.1.5            Mobility

A2.2.1.5.1            The Large ROV must climb and descend stairs with no less than a 20cm rise while carrying the minimum payload weight, see ANNEX A para. A2.2.1.7.2 (page 29).

- A2.2.1.5.2 The Large ROV must traverse a dry grass-covered slope of no less than 15 degrees (26.8% grade) while carrying the minimum payload weight, see ANNEX A para. A2.2.1.7.2 (page 29).
- A2.2.1.5.3 The Large ROV must climb and descend dry grass-covered slopes of no less than 30 degrees (57.7% grade) while carrying the minimum payload weight, see ANNEX A para. A2.2.1.7.2 (page 29).
- A2.2.1.5.4 The Large ROV must traverse smooth polished surfaces, hard road surfaces, gravel, mud, fine sand, snow and ice.
- A2.2.1.6 Automatic Brake
  - A2.2.1.6.1 The Large ROV must hold position when not commanded to move, including when the Large ROV is stopped on uneven ground or slopes and while carrying the minimum payload weight, see ANNEX A para. A2.2.1.7.2 (page 29).
- A2.2.1.7 Payload and Mount
  - A2.2.1.7.1 The Large ROV must include a tactical rail meeting STANAG 4694 to provide an anchor point for payloads.
  - A2.2.1.7.2 The Large ROV must carry no less than a 5kg payload weight.
- A2.2.1.8 Field of View
  - A2.2.1.8.1 The Large ROV must have an **overall** field of view, both front and rear, with:
    - A2.2.1.8.1.1 Low-light and near-infrared illuminators
    - A2.2.1.8.1.2 No less than a 60 degree horizontal field of view, and
    - A2.2.1.8.1.3 No less than a 60 degree vertical field of view.
      - 2.2.1.8.1.3.1 If required, the vertical field of view range can be met by either the camera tilting, the Large ROV body tilting, or through a software-based tilt.
  - A2.2.1.8.2 Additional field of view requirements listed under Manipulator Arm and Gripper para. A2.2.5.
- A2.2.1.9 Microphone for External Sounds
  - A2.2.1.9.1 The Large ROV must have a microphone allowing for the operator holding the CCS to hear external sounds in the environment around the Large ROV.
- A2.2.2 **Control and Communication System**
  - A2.2.2.1 RF Communication
    - A2.2.2.1.1 Line-of-Sight - The CCS must maintain communication with and control of the Large ROV at a distance of no less than 400m on open terrain.

- A2.2.2.2      Fibre Optic Communication
  - A2.2.2.2.1      The CCS must have a Fibre Optic Cable connector and link to allow communication with and control of the Large ROV.
- A2.2.2.3      Ingress Protection
  - A2.2.2.3.1      The CCS must have no less than an IP64 rating, or equivalent, IAW NEMA IEC 60529.
- A2.2.2.4      Power Level Display
  - A2.2.2.4.1      The CCS must display its own power level and the power level of the Large ROV, and must provide a low power warning indication when CCS or the Large ROV battery are nearing depletion and require replacement.
- A2.2.2.5      Image Display
  - A2.2.2.5.1      The CCS must have an Image Display with a minimum resolution of 640x480.
  - A2.2.2.5.2      The CCS must have an Image Display whose brightness is user adjustable for daylight and low light viewing.
- A2.2.2.6      Image Recoding
  - A2.2.2.6.1      The CCS must record and store no less than 20 hours of images and videos from the Small and Large ROV cameras (regardless of when the Small and Large ROV are moving or stopped).
- A2.2.2.7      Control Small and Large ROV
  - A2.2.2.7.1      The CCS must be identical to the CCS used to control the Small ROV, and must switch between and operate either the Small ROV or Large ROV.
  - A2.2.2.7.2      The CCS, when not controlling a ROV, must display camera images from any other selected ROV within the mesh-type network.
- A2.2.2.8      Speaker/Headset for External Sounds
  - A2.2.2.8.1      The CCS must have a speaker or headset allowing for the operator to hear external sounds in the environment around the Large ROV.
- A2.2.3      Battery Set(s)
  - A2.2.3.1      Each Battery Set of the CCS and Large ROV must provide no less than two (2) hours of operation at an approximate ideal temperature of 20°C (+/- 3 °C).
  - A2.2.3.2      Operation is defined as:
    - A2.2.3.2.1      Power-on and initialization sequence of the Large ROV and CCS.

- A2.2.3.2.2 Movement of the Large ROV 'down range' for 200m, with periodic movements throughout the majority of the two (2) hours, and then returning back for 200m before the two (2) hours has expired, and
- A2.2.3.2.3 Continuous video transmission (small fluctuations allowed) between the Large ROV and CCS throughout the two (2) hours.
- A2.2.3.3 Enough Battery Sets for eight (8) hours of operation must be provided for both the CCS and Large ROV.
- A2.2.3.4 The Battery Set must be replaced in no more than one (1) minute.
- A2.2.4 Battery Charging System
  - A2.2.4.1 The Battery Charging System must be provided for both the CCS and Large ROV Battery Sets.
  - A2.2.4.2 The Battery Charging System must include a universal power input of 110VAC – 220VAC, 50Hz – 60Hz, with North American plug type.
  - A2.2.4.3 The Battery Charging System must provide a visual indication of the battery charging in order to indicate when charging is in progress or complete.
  - A2.2.4.4 The Battery Charging System full re-charge time for one (1) Battery Set must not exceed eight (8) hours.
  - A2.2.4.5 The Battery Charging System must be certified CE, UL or equivalent.
- A2.2.5 Manipulator Arm and Gripper
  - A2.2.5.1 The Manipulator Arm must have no less than four (4) degrees of freedom for precise maneuvering of the arm and gripper.
    - A2.2.5.1.1 The gripper opening and closing must not count as one of the degrees of freedom required.
  - A2.2.5.2 The Manipulator Arm and Gripper must have factory pre-set poses allowing for rapid deployment or pack-up.
  - A2.2.5.3 The Manipulator Arm and Gripper must lift from the ground and carry objects of no less than 4.50kg in weight.
  - A2.2.5.4 The Manipulator Arm and Gripper, when fully extended, must lift objects of no less than 3.00kg in weight.
  - A2.2.5.5 The Gripper must have no less than 13.61 kg of grip force.
  - A2.2.5.6 The Gripper must have no less than a 10cm gripper opening to grasp objects.
  - A2.2.5.7 The Manipulator Arm must have a field of view with:
    - A2.2.5.7.1 No less than a 60 degree horizontal field of view.

- A2.2.5.7.2 No less than a 60 degree vertical field of view.
- A2.2.5.7.3 Pan no less than +/- 180 degrees (left and right).
  - A2.2.5.7.3.1 Panning can be met either through the camera itself panning or Manipulator Arm panning.
- A2.2.5.7.4 Tilt no less than +/- 90 degrees (up and down), and
  - A2.2.5.7.4.1 Tilting can be met either through the camera itself tilting or Manipulator Arm tilting.
- A2.2.5.8 The Manipulator Arm must have low-light and near-infrared illuminators.
- A2.2.5.9 The Manipulator Arm must carry and have disrupter mount(s), and sleeve(s) if needed, for the following in-service barrel disrupters:
  - A2.2.5.9.1 AB Precision Ltd. Needle Plus (Recoil) (NSN: 1385-99-485-3385)
  - A2.2.5.9.2 AB Precision Ltd. ABL-2000L (Recoilless) (NSN: 1385-99-151-5469)
  - A2.2.5.9.3 AB Precision Ltd. ABL-3000L (Recoilless) (NSN: 1385-99-447-0479)

**A2.2.6 Hard Transport Container**

- A2.2.6.1 The Hard Transport Container must have no less than an IP66 rating, or equivalent, IAW NEMA IEC 60529.

**A2.3 Physical Requirements**

**A2.3.1 Size**

- A2.3.1.1 The Large ROV, with attachments removed in preparation for transport, must fit within the Expedition Overload BVS (NSN: 8105-01-649-0611) outer compartment.
  - A2.3.1.1.1 The Expedition Overload BVS (NSN: 8105-01-649-0611) outer compartment has an available volume of height – 28 inches, width – 14 inches and depth – 12 inches.
  - A2.3.1.1.2 Removing attachments in preparation for transport must take no longer than 5 minutes to remove and 5 minutes to re-attach, and must only require the tools provided with the Large ROV System as per para. A2.1.1.3.

**A2.3.2 Weight**

- A2.3.2.1 The Large ROV, Manipulator Arm and Gripper, (but not including the Fibre Optic Cable and Mount) and CCS, with one (1) set of batteries each, must not exceed 20.00kg in combined weight.

**A2.3.3 Colour**

A2.3.3.1 The Large ROV and CCS must have the predominant exterior colour (so that it contributes to and does not compromise a soldier's camouflage) of:

A2.3.3.1.1 Flat/matte finish green;

A2.3.3.1.2 Flat/matte finish earth tone;

A2.3.3.1.3 Flat/matte finish grey, or

A2.3.3.1.4 Flat/matte finish black.

A2.3.3.2 Items that need to be painted to meet this requirement must be painted using the following paint colours (IAW FED-STD-595C) and must have a flat/matte finish:

A2.3.3.2.1 34094 Green;

A2.3.3.2.2 30051 Brown;

A2.3.3.2.3 33446 Dessert Tan;

A2.3.3.2.4 34082 Green;

A2.3.3.2.5 33105 Brown;

A2.3.3.2.6 33303 Sand, or

A2.3.3.2.7 Black.

**A2.4 Environmental/Climatic Requirements**

**A2.4.1 Climatic Conditions**

A2.4.1.1 The Large ROV and CCS components must operate in temperatures ranging from -19°C to +39°C.

A2.4.1.2 The Large ROV and CCS components must operate in relative humidity ranging from 5% to 100%.

**A2.4.2 Atmospheric Conditions**

A2.4.2.1 The Large ROV must operate in heavy rain up to 20 mm/hr and rain driven by wind gusts up to 40 km/h over a period of no less than one (1) hour operation.

A2.4.2.2 The Large ROV must operate in blowing sand and dust caused by wind gusts up to 40 km/h over a period of no less than one (1) hour.

A2.4.2.3 Operation is defined as:

A2.4.2.3.1 Power-on and initialization sequence of the Large ROV and CCS.

- A2.4.2.3.2 Movement of the Large ROV 'down range' for 200m, with periodic movements throughout the majority of the one (1) hour, and then returning back for 200m before the one (1) hour has expired, and
- A2.4.2.3.3 Continuous video transmission (small fluctuations allowed) between the Large ROV and CCS throughout the one (1) hour.

## A4.0 APPENDIX: CONTRACT DATA REQUIREMENTS LIST

### A4.1 CDRL Item List

<b>CDRL #</b>	<b>Title</b>	<b>DID #</b>
HRS-ROV-PM-001	Contract Status Report	HRS-ROV-PM-001
HRS-ROV-PM-002	Meeting Agenda	HRS-ROV-PM-002
HRS-ROV-PM-003	Meeting Minutes	HRS-ROV-PM-003
HRS-ROV-ILS-201	Top Level Assembly Drawing	HRS-ROV-ILS-201
HRS-ROV-ILS-202	Application for Spectrum Supportability	HRS-ROV-ILS-202
HRS-ROV-ILS-203	Operator Manual	HRS-ROV-ILS-203
HRS-ROV-ILS-204	Operator Quick Reference Card	HRS-ROV-ILS-204
HRS-ROV-ILS-205	Repair Manual	HRS-ROV-ILS-205
HRS-ROV-ILS-206	Illustrated Parts Manual	HRS-ROV-ILS-206
HRS-ROV-ILS-207	Operator Training Package	HRS-ROV-ILS-207
HRS-ROV-ILS-208	Technician Training Package	HRS-ROV-ILS-208
HRS-ROV-ILS-209	Provisioning Parts Breakdown	HRS-ROV-ILS-209
HRS-ROV-ILS-210	Supplementary Provisioning Technical Documentation	HRS-ROV-ILS-210
HRS-ROV-ILS-211	Special Tools and Test Equipment	HRS-ROV-ILS-211
HRS-ROV-ILS-212	Identification Plates	HRS-ROV-ILS-212
HRS-ROV-ILS-213	Controlled & Non-Controlled Goods List	HRS-ROV-ILS-213
HRS-ROV-ILS-214	Packaging, Labels and Codes	HRS-ROV-ILS-214
HRS-ROV-ILS-215	Repair and Overhaul Plan	HRS-ROV-ILS-215

## A4.2 CDRL Table Definitions

The following section defines the various blocks of information found on the CDRL forms:

### **BLOCK 1 – SYSTEM / ITEM**

Provides the name of the System or Item for which the CDRL applies.

### **BLOCK 2 – ITEM NUMBER**

The Item Number is a sequential three-digit number to uniquely identify the individual data item (CDRL number). Note that the 001-099 series is reserved to Project Management (PM) CDRLs, the 101-199 series is reserved to Systems Engineering (SE) CDRLs and the 201-299 series is reserved to Integrated Logistics Support (ILS) CDRLs.

### **BLOCK 3 - TITLE OR DESCRIPTION OF DATA**

The title of the data item being referred to in this CDRL.

### **BLOCK 4 - AUTHORITY (DATA ITEM NUMBER)**

Indicates the Data Item Description (DID) number to which this CDRL refers.

### **BLOCK 5 - CONTRACT REFERENCE**

The specific paragraph number of the Contract Demand, Statement of Work, Request for Proposal, Specification, or other applicable document to assist in identifying the work effort associated with the data item.

### **BLOCK 6 - FREQUENCY**

This block indicates the frequency of the delivered data. The following frequency codes are used:

ANNLY	Annually
ASGEN	As generated
ASREQ	As required
BI-MO	Every 2 months
BI-WK	Every 2 weeks
DAILY	Daily
MNTHY	Monthly
ONE/R	One time with revisions
OTIME	One time
QRTLY	Quarterly
R/ASR	Revisions as required
SEMIA	Semi-annually
WKLY	Weekly

### **BLOCK 7 – REQUIRING OFFICE**

Identifies the technical office of primary interest responsible for defining the data requirement, reviewing, acceptance and approval of the data item, and ensuring the adequacy of the delivered data.

### **BLOCK 8 – SUBMISSION SCHEDULE**

**DATE OF 1ST SUBMISSION** - The initial submission date or associated constraint for the 1st submission of the data item is indicated in this block using typical abbreviations as listed above under Block 11.

**DATE OF SUBSEQUENT SUBMISSION / EVENT** - The date(s) of subsequent submission(s) or associated constraint(s) of the data item is indicated in this block.

**BLOCK 9 - DISTRIBUTION AND ADDRESSEES**

Indicates the addressees and the respective number of copies (hard copies and soft copies separately), for either the draft or first submissions (Sub-Block "Draft"), and for the final or subsequent submissions (Sub-Block "Final"), for which the data item is required.

**A4.3 CDRL – Contract Status Report**

<b>CONTRACT DATA REQUIREMENTS LIST</b>							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-PM-001		3. TITLE OR DESCRIPTION OF DATA Contract Status Report (CSR)		4. AUTHORITY (Data Item Number) DID HRS-ROV-PM-001			
5. CONTRACT REFERENCE SOW: <b>Para. 3.2.1 (pg. 9)</b> DID: <b>App. A5.3 (pg. 58)</b>		6. FREQUENCY MNTY		7. REQUIRING OFFICE DND PMO			
8. SUBMISSION SCHEDULE  <b>First Submission:</b> The Contractor must provide a draft CSR for review no later than 28 calendar days after the Kick-off Meeting.  <b>Response Time:</b> Comments on the draft CSR will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .  <b>Subsequent Submission(s):</b> The Contractor must provide a revised CSR, addressing Canada's comments, for review and possible acceptance no later than 7 calendar days after the receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised CSR will be provided by Canada no later than seven (7) calendar days after receipt of the <u>soft copy submission</u> .  <b>Monthly Submissions:</b> After acceptance by Canada, the Contractor must provide a CSR on a monthly basis throughout the contract.			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND TA	0	1	0	1
			PSPC CA	0	0	0	1
			DND PA	0	0	0	1
DND ILSM	0	1	0	1			

**A4.4 CDRL – Meeting Agenda**

CONTRACT DATA REQUIREMENTS LIST						
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System						
2. ITEM NUMBER CDRL HRS-ROV-PM-002	3. TITLE OR DESCRIPTION OF DATA Meeting Agenda	4. AUTHORITY (Data Item Number) DID HRS-ROV-PM-002				
5. CONTRACT REFERENCE SOW: <b>Para. 3.3.5.1.1 (pg. 10)</b> DID: <b>App. A5.4 (pg. 60)</b>	6. FREQUENCY  ASREQ	7. REQUIRING OFFICE DND PMO				
8. SUBMISSION SCHEDULE		9. DISTRIBUTION and ADDRESSEES				
<p><b>First Submission:</b> The Contractor must provide a draft Meeting Agenda for review no later than seven (7) calendar days prior to each meeting.</p> <p><b>Response Time:</b> Comments on the draft Meeting Agenda, and additions and deletions of discussion items, will be provided by Canada no later than five (5) calendar days after receipt of the <u>soft copy</u> submission.</p> <p><b>Subsequent Submission:</b> The Contractor must provide a revised Meeting Agenda, addressing Canada’s comments, in <u>soft copy</u> one (1) calendar day prior to each meeting, and in <u>hard copy</u> at the meeting.</p>		A. ADDRESSEE	B. COPIES			
		DRAFT		FINAL		
		Hard Copy	Soft Copy	Hard Copy	Soft Copy	
		PSPC CA	0	1	1	1
		DND TA	0	1	1	1
DND PA	0	1	1	1		

**A4.5 CDRL – Meeting Minutes**

CONTRACT DATA REQUIREMENTS LIST							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-PM-003		3. TITLE OR DESCRIPTION OF DATA Meeting Minutes		4. AUTHORITY (Data Item Number) DID HRS-ROV-PM-003			
5. CONTRACT REFERENCE SOW: <b>Para. 3.3.5.1.2 (pg. 10)</b> DID: <b>App. A5.5 (pg. 62)</b>		6. FREQUENCY ASREQ		7. REQUIRING OFFICE DND PMO			
8. SUBMISSION SCHEDULE  <b>First Submission:</b> The Contractor must provide draft Meeting Minutes for review no later than seven (7) calendar days following each meeting.  <b>Response Time:</b> Comments on the draft Meeting Minutes will be provided by Canada no later than seven (7) calendar days after receipt of the <u>soft copy submission</u> .  <b>Subsequent Submission(s):</b> The Contractor must provide revised Meeting Minutes, addressing Canada's comments, for review and possible acceptance no later than seven (7) calendar days after receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised Meeting Minutes will be provided by Canada no later than seven (7) calendar days after receipt of the <u>soft copy submission</u> .			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			PSPC CA	0	1	0	1
			DND TA	0	1	0	1
DND PA	0	1	0	1			

**A4.6 CDRL – Top Level Assembly Drawing**

CONTRACT DATA REQUIREMENTS LIST								
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System								
2. ITEM NUMBER CDRL HRS-ROV-ILS-201	3. TITLE OR DESCRIPTION OF DATA TLAD	4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-201						
5. CONTRACT REFERENCE SOW: <b>Para. 3.3.2.2 (pg. 9)</b> DID: <b>App. A5.6 (pg. 63)</b>	6. FREQUENCY  ONE/R	7. REQUIRING OFFICE  DND ILS Manager						
8. SUBMISSION SCHEDULE		9. DISTRIBUTION and ADDRESSEES						
<p><b>First Submission:</b> The Contractor must provide a draft TLAD for review by Canada during the Kick-Off Meeting.</p> <p><b>Response Time:</b> Comments on the draft TLAD will be provided by Canada no later than seven (7) calendar days after receipt of the <u>hard and soft copy submission</u>.</p> <p><b>Subsequent Submission(s):</b> The Contractor must provide a revised TLAD, addressing Canada's comments, for review and possible acceptance no later than seven (7) calendar days after the receipt of Canada's comments.</p> <p><b>Response Time:</b> Comments or acceptance of the revised TLAD will be provided by Canada no later than seven (7) calendar days after receipt of the <u>hard and soft copy submission</u>.</p>		A. ADDRESSEE	B. COPIES					
				DRAFT		FINAL		
				Hard Copy	Soft Copy	Hard Copy	Soft Copy	
				DND ILSM	1	1	1	1

**A4.7 CDRL – Application for Spectrum Supportability**

<b>CONTRACT DATA REQUIREMENTS LIST</b>							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-202		3. TITLE OR DESCRIPTION OF DATA Application for Spectrum Supportability		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-202			
5. CONTRACT REFERENCE SOW: <b>Para. 4.3.1 (pg. 11)</b> DID: <b>App. A5.7 (pg. 64)</b>		6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND PMO			
8. SUBMISSION SCHEDULE  <b>First Submission:</b> The Contractor must provide a draft Application for Spectrum Supportability for review by Canada no later than 21 calendar days following the kick-off meeting.  <b>Response Time:</b> Comments on the draft Application for Spectrum Supportability will be provided by Canada no later than 28 calendar days after receipt of the <u>soft copy submission</u> .  <b>Subsequent Submission(s):</b> The Contractor must provide a revised Application for Spectrum Supportability, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised Application for Spectrum Supportability will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND TA	0	1	0	1

**A4.8 CDRL – Operator Manual**

<b>CONTRACT DATA REQUIREMENTS LIST</b>								
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System								
2. ITEM NUMBER CDRL HRS-ROV-ILS-203		3. TITLE OR DESCRIPTION OF DATA Operator Manual		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-203				
5. CONTRACT REFERENCE SOW: <b>Para. 4.4.1.1.1 (pg. 12)</b> DID: <b>App. A5.8 (pg. 65)</b>		6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND ILS Manager				
8. SUBMISSION SCHEDULE  <b>First Submission (English):</b> The Contractor must provide a draft English Operator Manual for review by Canada no later than 56 calendar days after the Kick off Meeting date.  <b>Response Time:</b> Comments on the draft English Operator Manual will be provided by Canada no later than 21 calendar days after receipt of the <u>hard copy submission</u> .  <b>Subsequent Submission(s) (English):</b> The Contractor must provide a revised English Operator Manual, addressing Canada's comments, for review and possible acceptance no later than 21 calendar days after the receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised English Operator Manual will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>First Submission (Bilingual):</b> The Contractor must provide a draft Bilingual Operator Manual for review by Canada no later than 42 calendar days after the acceptance of the English Operator Manual.  <b>Response Time:</b> Comments on the draft Bilingual Operator Manual will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>Subsequent Submission(s) (Bilingual):</b> The Contractor must provide a revised Bilingual Operator Manual, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after the receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised Bilingual Operator Manual will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .			9. DISTRIBUTION and ADDRESSEES					
			A. ADDRESSEE		B. COPIES			
					DRAFT		FINAL	
					Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND ILSM		1 per component	1 per component	1 per component	1 per component
			Issued with each Small ROV System		0	0	79	0
			Issued with each Large ROV System		0	0	9	0
					0	0	0	0
					0	0	0	0
					0	0	0	0
					0	0	0	0
					0	0	0	0
					0	0	0	0
					0	0	0	0
		0	0	0	0			





**A4.11 CDRL – Illustrated Parts Manual**

CONTRACT DATA REQUIREMENTS LIST																																															
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System																																															
2. ITEM NUMBER CDRL HRS-ROV-ILS-206	3. TITLE OR DESCRIPTION OF DATA Illustrated Parts Manual		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-206																																												
5. CONTRACT REFERENCE SOW Para. 4.4.1.4.1 (pg. 12) DID: App. A5.11 (pg. 71)	6. FREQUENCY ONE/R		7. REQUIRING OFFICE DND ILS Manager																																												
<p>8. SUBMISSION SCHEDULE</p> <p><b>First Submission:</b> The Contractor must provide a draft Illustrated Parts Manual for review by Canada no later than 49 calendar days after the kick-off meeting date.</p> <p><b>Response Time:</b> Comments on the draft Illustrated Parts Manual will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u>.</p> <p><b>Subsequent Submission(s):</b> The Contractor must provide a revised Illustrated Parts Manual, addressing Canada’s comments, for review and possible acceptance no later than 14 calendar days after the receipt of Canada’s comments.</p> <p><b>Response Time:</b> Comments or acceptance of the revised Illustrated Parts Manual will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u>.</p> <p><b>Note:</b> The Contractor must provide a subsequent submission of the Illustrated Parts Manual if additional revisions or additions are required after completion of the IPC.</p>			<p>9. DISTRIBUTION and ADDRESSEES</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="3" style="width: 15%;">A. ADDRESSEE</th> <th colspan="4">B. COPIES</th> </tr> <tr> <th colspan="2">DRAFT</th> <th colspan="2">FINAL</th> </tr> <tr> <th style="font-size: small;">Hard Copy</th> <th style="font-size: small;">Soft Copy</th> <th style="font-size: small;">Hard Copy</th> <th style="font-size: small;">Soft Copy</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">DND ILSM</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td style="text-align: center;">3</td> <td style="text-align: center;">1</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		A. ADDRESSEE	B. COPIES				DRAFT		FINAL		Hard Copy	Soft Copy	Hard Copy	Soft Copy	DND ILSM	1	1	3	1																									
A. ADDRESSEE	B. COPIES																																														
	DRAFT		FINAL																																												
	Hard Copy	Soft Copy	Hard Copy	Soft Copy																																											
DND ILSM	1	1	3	1																																											

**A4.12 CDRL – Operator Training Package**

<b>CONTRACT DATA REQUIREMENTS LIST</b>							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-207		3. TITLE OR DESCRIPTION OF DATA Operator Training Package		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-207			
5. CONTRACT REFERENCE SOW: <b>Para. 4.4.1.5.1 (pg. 12)</b> DID: <b>App. A5.12 (pg. 73)</b>		6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND ILS Manager			
8. SUBMISSION SCHEDULE  <b>First Submission (English):</b> The Contractor must provide a draft English Operator Training Package for review by Canada no later than 14 calendar days following the acceptance of the English version of the Operator Manual.  <b>Response Time:</b> Comments on the draft English Operator Training Package will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>Subsequent Submission(s) (English):</b> The Contractor must provide a revised English Operator Training Package, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after the receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised English Operator Training Package will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>First Submission (Bilingual):</b> The Contractor must provide a draft Bilingual Operator Training Package for review by Canada no later than 14 calendar days after the acceptance of the Bilingual Operator Manual.  <b>Response Time:</b> Comments on the draft Bilingual Operator Training Package will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>Subsequent Submission(s) (Bilingual):</b> The Contractor must provide a revised Bilingual Operator Training Package, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after the receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised Bilingual Operator Training Package will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESS	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND ILSM	1	1	1	1
			Issued to Students at the Training Session(s)			1 – Student Handout only	1 – CD of the Operator Training Package

**A4.13 CDRL – Technician Training Package**

CONTRACT DATA REQUIREMENTS LIST							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-208		3. TITLE OR DESCRIPTION OF DATA Technician Training Package		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-208			
5. CONTRACT REFERENCE SOW: <b>Para. 4.4.1.6.1 (pg. 13)</b> DID: <b>App. A5.13 (pg. 75)</b>		6. FREQUENCY ONE/R		7. REQUIRING OFFICE DND ILS Manager			
8. SUBMISSION SCHEDULE  <b>First Submission (English):</b> The Contractor must provide a draft English Technician Training Package for review by Canada no later than 14 calendar days following the acceptance of the English version of the Repair Manual.  <b>Response Time:</b> Comments on the draft English Technician Training Package will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>Subsequent Submission(s) (English):</b> The Contractor must provide a revised English Technician Training Package, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after the receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised English Technician Training Package will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>First Submission (Bilingual):</b> The Contractor must provide a draft Bilingual Technician Training Package for review by Canada no later than 14 calendar days after the acceptance of the Bilingual Repair Manual.  <b>Response Time:</b> Comments on the draft Bilingual Technician Training Package will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>Subsequent Submission(s) (Bilingual):</b> The Contractor must provide a revised Bilingual Technician Training Package, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after the receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised Bilingual Technician Training Package will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESS	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND ILSM	1	1	1	1
			Issued to Students at the Training Session(s)			1 – Student Handout only	1 – CD of the Technician Training Package

**A4.14 CDRL – Provisioning Parts Breakdown**

<b>CONTRACT DATA REQUIREMENTS LIST</b>							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-209		3. TITLE OR DESCRIPTION OF DATA Provisioning Parts Breakdown		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-209			
5. CONTRACT REFERENCE SOW: <b>Para. 4.5.1.1.1 (pg. 14)</b> DID: <b>App. A5.14 (pg. 77)</b>		6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND ILS Manager			
8. SUBMISSION SCHEDULE  <b>First Submission:</b> The Contractor must provide a draft Provisioning Parts Breakdown for review by Canada at the same time as the draft Illustrated Parts Manual submission.  <b>Response Time:</b> Comments on the draft Provisioning Parts Breakdown will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .  <b>Subsequent Submission(s):</b> The Contractor must provide a revised Provisioning Parts Breakdown, addressing Canada’s comments, for review and possible acceptance no later than 14 calendar days before the IPC.  <b>Response Time:</b> Comments or acceptance of the revised Provisioning Parts Breakdown will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .  <b>Note:</b> The Contractor must provide a subsequent submission of the Provisioning Parts Breakdown if additional revisions or additions are required after completion of the IPC.			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND ILSM	1	1	1	1

**A4.15 CDRL – Supplementary Provisioning Technical Documentation**

<b>CONTRACT DATA REQUIREMENTS LIST</b>							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-210		3. TITLE OR DESCRIPTION OF DATA Supplementary Provisioning Technical Documentation		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-210			
5. CONTRACT REFERENCE SOW: <b>Para. 4.5.1.2.1 (pg. 15)</b> DID: <b>App. A5.15 (pg. 80)</b>		6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND ILS Manager			
8. SUBMISSION SCHEDULE  <b>First Submission:</b> The Contractor must provide a draft Supplementary Provisioning Technical Documentation for review by Canada at the same time as the draft Provisioning Parts Breakdown submission.  <b>Response Time:</b> Comments on the draft Supplementary Provisioning Technical Documentation will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .  The Contractor must revise the draft Supplementary Provisioning Technical Documentation, addressing Canada's comments, and bring the revised Supplementary Provisioning Technical Documentation to the Initial Provisioning Conference.  <b>Subsequent Submission(s)</b> The Contractor must provide a revised Supplementary Provisioning Technical Documentation, addressing Canada's comments and changes resulting from decisions taken during the Initial Provisioning Conference, for review and possible acceptance no later than 14 calendar days from the end date of the Initial Provisioning Conference.  <b>Response Time:</b> Comments or acceptance of the revised Supplementary Provisioning Technical Documentation will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND ILSM	0	1	1	1

**A4.16 CDRL – Special Tools and Test Equipment List**

<b>CONTRACT DATA REQUIREMENTS LIST</b>							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-211		3. TITLE OR DESCRIPTION OF DATA Special Tools & Test Equipment List		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-211			
5. CONTRACT REFERENCE SOW: <b>Para. 4.5.1.3.1 (pg. 15)</b> DID: <b>App. A5.16 (pg. 82)</b>		6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND ILS Manager			
8. SUBMISSION SCHEDULE  <b>First Submission:</b> The Contractor must provide a draft Special Tools and Test Equipment List for review by Canada no later than 21 calendar days after the kick-off meeting.  <b>Response Time:</b> Comments on the draft Special Tools and Test Equipment List will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .  <b>Subsequent Submission(s):</b> The Contractor must provide a revised Special Tools and Test Equipment List, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised Special Tools and Test Equipment List will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND ILSM	0	1	1	1

**A4.17 CDRL – Identification Plates – Design Template & Populated Designs**

CONTRACT DATA REQUIREMENTS LIST							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-212		3. TITLE OR DESCRIPTION OF DATA Identification Plates – Design Template & Populated Designs		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-212			
5. CONTRACT REFERENCE SOW: <b>Para. 4.7.1 (pg. 15)</b> DID: <b>App. A5.17 (pg. 84)</b>		6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND ILS Manager			
8. SUBMISSION SCHEDULE  <b>First Submission (Design Template):</b> The Contractor must provide a draft Identification Plates design template for review by Canada no later than 28 calendar days after the Kick off Meeting date.  <b>Response Time:</b> Comments on the draft Identification Plates design template will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>Subsequent Submission(s) (Design Template):</b> The Contractor must provide a revised Identification Plates design template, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after the receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised Identification Plates design template will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>First Submission (Populated Designs):</b> The Contractor must provide all draft populated Identification Plate designs for review by Canada no later than 28 calendar days after acceptance of the Identification Plates design template.  <b>Response Time:</b> Comments on the draft populated Identification Plate designs will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .  <b>Subsequent Submission(s) (Populated Designs):</b> The Contractor must provide revised populated Identification Plate designs, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after the receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised populated Identification Plate designs will be provided by Canada no later than 14 calendar days after receipt of the <u>hard copy submission</u> .			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND ILSM	1	1	1	1

**A4.18 CDRL – Controlled & Non-Controlled Goods List**

<b>CONTRACT DATA REQUIREMENTS LIST</b>							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-213		3. TITLE OR DESCRIPTION OF DATA Controlled & Non-Controlled Goods List (CNCGL)		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-213			
5. CONTRACT REFERENCE SOW: <b>Para. 4.8.1 (pg. 16)</b> DID: <b>App. A5.18 (pg. 86)</b>		6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND ILS Manager			
8. SUBMISSION SCHEDULE  <b>First Submission:</b> The Contractor must provide a draft CNCGL for review by Canada at the same time as the draft Provisioning Parts Breakdown submission.  <b>Response Time:</b> Comments on the draft CNCGL will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .  <b>Subsequent Submission(s)</b> The Contractor must provide a revised CNCGL, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised CNCGL will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND ILSM	0	1	1	1

**A4.19 CDRL – Packaging, Labels and Codes**

CONTRACT DATA REQUIREMENTS LIST							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-214	3. TITLE OR DESCRIPTION OF DATA Packaging, Labels and Codes		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-214				
5. CONTRACT REFERENCE SOW: <b>Para. 4.9.3 (pg. 16)</b> DID: <b>App. A5.19 (pg. 88)</b>	6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND ILS Manager				
8. SUBMISSION SCHEDULE  <p><b>First Submission:</b> The Contractor must provide a draft Packaging, Labels and Codes for review by Canada no later than 42 calendar days after the Kick-off Meeting.</p> <p><b>Response Time:</b> Comments on the draft Packaging, Labels and Codes will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u>.</p> <p><b>Subsequent Submission(s):</b> The Contractor must provide a revised Packaging, Labels and Codes, addressing Canada’s comments, for review and possible acceptance no later than 14 calendar days after receipt of Canada’s comments.</p> <p><b>Response Time:</b> Comments or acceptance of the revised Packaging, Labels and Codes will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u>.</p> <p><b>Note:</b> The Contractor must provide a subsequent submission of the Packaging, Labels and Codes if additional revisions or additions are required after a range of spares are chosen by Canada.</p>			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
			DRAFT		FINAL		
			Hard Copy	Soft Copy	Hard Copy	Soft Copy	
			DND ILSM	0	1	1	1

**A4.20 CDRL – Repair & Overhaul Plan**

CONTRACT DATA REQUIREMENTS LIST							
1. SYSTEM / ITEM High Risk Search Remotely Operated Vehicle System							
2. ITEM NUMBER CDRL HRS-ROV-ILS-215		3. TITLE OR DESCRIPTION OF DATA Repair and Overhaul Plan		4. AUTHORITY (Data Item Number) DID HRS-ROV-ILS-215			
5. CONTRACT REFERENCE SOW: <b>Para. 4.10.1 (pg. 16)</b> DID: <b>App. A5.20 (pg. 90)</b>		6. FREQUENCY  ONE/R		7. REQUIRING OFFICE  DND ILS Manager			
8. SUBMISSION SCHEDULE  <b>First Submission:</b> The Contractor must provide a draft Repair and Overhaul Plan for review by Canada no later than 49 calendar days following the kick-off meeting.  <b>Response Time:</b> Comments on the draft Repair and Overhaul Plan will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .  <b>Subsequent Submission(s):</b> The Contractor must provide a revised Repair and Overhaul Plan, addressing Canada's comments, for review and possible acceptance no later than 14 calendar days after receipt of Canada's comments.  <b>Response Time:</b> Comments or acceptance of the revised Repair and Overhaul Plan will be provided by Canada no later than 14 calendar days after receipt of the <u>soft copy submission</u> .			9. DISTRIBUTION and ADDRESSEES				
			A. ADDRESSEE	B. COPIES			
				DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy
			DND ILSM	0	1	1	1

## A5.0 APPENDIX: DATA ITEM DESCRIPTION

### A5.1 DID Item List

<b>DID #</b>	<b>Title</b>	<b>CDRL #</b>
HRS-ROV-PM-001	Contract Status Report	HRS-ROV-PM-001
HRS-ROV-PM-002	Meeting Agenda	HRS-ROV-PM-002
HRS-ROV-PM-003	Meeting Minutes	HRS-ROV-PM-003
HRS-ROV-ILS-201	Top Level Assembly Drawing	HRS-ROV-ILS-201
HRS-ROV-ILS-202	Application for Spectrum Supportability	HRS-ROV-ILS-202
HRS-ROV-ILS-203	Operator Manual	HRS-ROV-ILS-203
HRS-ROV-ILS-204	Operator Quick Reference Card	HRS-ROV-ILS-204
HRS-ROV-ILS-205	Repair Manual	HRS-ROV-ILS-205
HRS-ROV-ILS-206	Illustrated Parts Manual	HRS-ROV-ILS-206
HRS-ROV-ILS-207	Operator Training Package	HRS-ROV-ILS-207
HRS-ROV-ILS-208	Technician Training Package	HRS-ROV-ILS-208
HRS-ROV-ILS-209	Provisioning Parts Breakdown	HRS-ROV-ILS-209
HRS-ROV-ILS-210	Supplementary Provisioning Technical Documentation	HRS-ROV-ILS-210
HRS-ROV-ILS-211	Special Tools and Test Equipment	HRS-ROV-ILS-211
HRS-ROV-ILS-212	Identification Plates	HRS-ROV-ILS-212
HRS-ROV-ILS-213	Controlled & Non-Controlled Goods List	HRS-ROV-ILS-213
HRS-ROV-ILS-214	Packaging, Labels and Codes	HRS-ROV-ILS-214
HRS-ROV-ILS-215	Repair and Overhaul Plan	HRS-ROV-ILS-215

## A5.2 DID Table Definitions

The following section defines the various blocks of information found on the Data Item Description (DID) forms:

### **BLOCK 1 – TITLE**

The title of the data item for the DID.

### **BLOCK 2 - IDENTIFICATION NUMBER**

The Data Item Description (DID) number, consisting of a sequential three-digit number and prefixed with an abbreviation code, to uniquely identify the DID. Note that the 001-099 series is reserved to Project Management (PM) DIDs, the 101-199 series is reserved to Systems Engineering (SE) DIDs and the 201-299 series is reserved to Integrated Logistics Support (ILS) DIDs. The abbreviation codes used for the prefix are:

“PM” for Project Management  
“SE” for Systems Engineering  
“ILS” for Integrated Logistics Support

### **BLOCK 3 - DESCRIPTION**

Provides a general description of the data content requirements.

### **BLOCK 4 – RELATED DOCUMENT(S)**

Provides a listing of the related documents and specifications associated with and required to produce this DID.

### **BLOCK 5 - CONTRACT REFERENCE**

The specific paragraph numbers from the Contract Statement of Work and CDRL to assist in identifying the work effort associated with the data item.

### **BLOCK 6 - PREPARATION INSTRUCTIONS**

Provides the preparation instructions for the content and format requirements for the DID.

### A5.3 DID – Contract Status Report

DATA ITEM DESCRIPTION	
1. TITLE <b>Contract Status Report (CSR)</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-PM-001
3. DESCRIPTION The Contract Status Report (CSR) is the principal statement and explanation of the status of the contract at the end of each reporting period, and will summarise the Contractor's progress and activities in relation to the Project milestones, schedule, and contract data deliverables.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE SOW: <b>Para. 3.2.1 (pg. 9)</b> CDRL: <b>App. A4.3 (pg. 38)</b>
6. PREPARATION INSTRUCTIONS	
6.1. <b>CONTENT</b>	
6.1.1. Section A: Contract Status	
6.1.1.1. The CSR must identify the date at which the CSR is valid, and the time period since the status date of the previous CSR (the 'reporting period').	
6.1.1.2. The CSR must include the following information:	
6.1.1.2.1. A summary of work activities undertaken during the reporting period;	
6.1.1.2.2. A summary of work activities expected to be undertaken in the next reporting period and all significant forthcoming events.	
6.1.1.2.3. A narrative detailing progress against milestones, expected date of completion of near milestones, problem areas and work-around plans where required;	
6.1.1.2.4. A status report on contract data deliverable end items as called up in the CDRLs;	
6.1.1.2.5. A list of correspondence that requires a response from the DND/PSPC, but for which no response has been received; and	
6.1.1.2.6. A list of DND/PSPC correspondence to the Contractor for which a response is outstanding, and an estimate of the response date.	
6.1.1.3. Risk Register	
6.1.1.3.1. The CSR must include a Risk Register that reflects the current status of risk for the contract;	
6.1.1.3.2. The Risk Register information provided must include:	
6.1.1.3.2.1. Identification of each risk (sequence number, name and description);	
6.1.1.3.2.2. Its likelihood and potential severity;	
6.1.1.3.2.3. Who is assigned to manage the risk;	
6.1.1.3.2.4. The planned risk response should the event occur; and	
6.1.1.3.2.5. The risk mitigation (actions taken in advance to reduce probability/impact.	
6.1.1.3.3. Once individual identified risks have been resolved, they can be removed from the active Risk Register.	
6.1.2. Section B: Project Master Schedule	
6.1.2.1. The CSR must include a project schedule with progress up to the last day of the reporting period.	

6.1.2.2. The CSR Project Schedule must include the following information:

- 6.1.2.2.1. A summary level time scaled bar chart showing the WBS elements/codes and work activities along the vertical axis and the time scale in months along the horizontal axis;
- 6.1.2.2.2. A baseline schedule bar should be retained for each work activity, event and milestone along with the start/finish dates and total duration, for comparison to a current schedule;
- 6.1.2.2.3. A current schedule bar should be shown for each work activity, event and milestone along with the start/finish dates and total duration;
- 6.1.2.2.4. A separate schedule clearly identifying the critical path; and
- 6.1.2.2.5. Appropriate titles and legends to define all symbols used on the Project Master Schedule.

**6.2. SOFT COPY FORMAT**

- 6.2.1. The CSR must be submitted as a PDF file type.
- 6.2.2. The CSR PDF must be submitted via email (submission size not to exceed 7MB) as follows:
  - 6.2.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.
  - 6.2.2.2. Subject Field: HRS-ROV-PM-001 – CSR – [Rev #] – [Date of Issue]

**A5.4 DID – Meeting Agenda**

<b>DATA ITEM DESCRIPTION</b>	
1. TITLE <b>Meeting Agenda</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-PM-002
3. DESCRIPTION The Meeting Agenda contains the venue information and identifies the discussion items to be covered at meetings.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE <b>SOW: Para. 3.3.5.1.1 (pg. 10)</b> <b>CDRL: App. A4.4 (pg. 39)</b>
6. PREPARATION INSTRUCTIONS	
<p><b>6.1. CONTENT</b></p> <p>6.1.1. The Meeting Agenda must set forth the venue, identify all requirements and list the discussion items to be covered at the meeting.</p> <p>6.1.2. Venue. The Meeting Agenda must address the venue as follows:</p> <ul style="list-style-type: none"> <li>6.1.2.1. Meeting Identification Number;</li> <li>6.1.2.2. Purpose;</li> <li>6.1.2.3. Date, time and location; and</li> <li>6.1.2.4. Attendees.</li> </ul> <p>6.1.3. Discussion items. The Meeting Agenda must address the discussion items through the following sections:</p> <ul style="list-style-type: none"> <li>6.1.3.1. Opening Remarks;</li> <li>6.1.3.2. Agenda Review;</li> <li>6.1.3.3. Review of Previous Minutes;</li> <li>6.1.3.4. Opened Discussion Items;</li> <li>6.1.3.5. New Discussion Items;</li> <li>6.1.3.6. Review of Action Items;</li> <li>6.1.3.7. Next Venue; and</li> <li>6.1.3.8. Closing Remarks.</li> </ul> <p><b>6.2. HARD COPY FORMAT</b></p> <p>6.2.1. The Meeting Agenda must be printed on paper with these characteristics:</p> <ul style="list-style-type: none"> <li>6.2.1.1. Weight of no less than 90 gsm;</li> <li>6.2.1.2. Brightness of no less than 96 ISO brightness;</li> </ul> <p><b>6.3. SOFT COPY FORMAT</b></p> <p>6.3.1. The Meeting Agenda must be submitted as a PDF file type.</p> <p>6.3.2. The Meeting Agenda PDF must be submitted via email (submission size not to exceed 7MB) as follows:</p> <ul style="list-style-type: none"> <li>6.3.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.</li> </ul>	

6.3.2.2. Subject Field: HRS-ROV-PM-002 – Meeting Agenda – [Rev #] – [Date of Issue]

**A5.5 DID – Meeting Minutes**

<b>DATA ITEM DESCRIPTION</b>	
1. TITLE <b>Meeting Minutes</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-PM-003
3. DESCRIPTION The Meeting Minutes contains the detailed records of proceedings, discussions, decisions and action items from meetings.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE SOW: <b>Para. 3.3.5.1.2 (pg. 10)</b> CDRL: <b>App. A4.5 (pg. 40)</b>
6. PREPARATION INSTRUCTIONS	
<p><b>6.1. CONTENT</b></p> <p>6.1.1. The Meeting Minutes must contain the detailed records of proceedings, discussions, decisions and action items from the meeting and be presented through the following sections:</p> <p>6.1.1.1. General – consisting of meeting identification number, purpose, date, time and location;</p> <p>6.1.1.2. Attendees, consisting of the organization each person represents, and the identification of the Chairperson(s);</p> <p>6.1.1.3. Opening Remarks;</p> <p>6.1.1.4. <b>Action Item Report</b> - used to monitor issues, assign responsibility, direct action and track status, history, and progress, and must consist of:</p> <p>6.1.1.4.1. Item #; date initiated; required action; assigned actionee; target completion date; cross-reference to all related action items.</p> <p>6.1.1.4.2. Action Item Report must be <b>updated</b> with each meeting and must consist of:</p> <p>6.1.1.4.2.1. Action Item current status and the actual date completed;</p> <p>6.1.1.5. Next Venue;</p> <p>6.1.1.6. Closing Remarks;</p> <p><b>6.2. SOFT COPY FORMAT</b></p> <p>6.2.1. The Meeting Minutes must be submitted as a PDF file type.</p> <p>6.2.2. The Meeting Minutes PDF must be submitted via email (submission size not to exceed 7MB) as follows:</p> <p>6.2.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.</p> <p>6.2.2.2. Subject Field: HRS-ROV-PM-003 – Meeting Minutes – [Rev #] – [Date of Issue]</p>	

## A5.6 DID – Top Level Assembly Drawing

DATA ITEM DESCRIPTION	
1. TITLE <b>TLAD</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-201
3. DESCRIPTION The TLAD describes the assembled relationship of all the parts of the system.	
4. RELATED DOCUMENTS <b>D-01-400-001/SG-000</b> <i>Standard - Engineering Drawing Practices</i> <b>D-01-400-002/SF-000</b> <i>Specification - Levels of Engineering Drawings</i>	5. CONTRACT REFERENCE SOW: <b>Para. 3.3.2.2 (pg. 9)</b> CDRL: <b>App. A4.6 (pg. 41)</b>
6. PREPARATION INSTRUCTIONS	
6.1. <b>CONTENT</b>	
6.1.1. The TLAD must contain all information necessary to identify all the components of the HRS-ROV.	
6.2. <b>GENERAL FORMAT</b>	
6.2.1. The TLAD must be prepared IAW D-01-400-001/SG-000, Engineering Drawing Practices, para 7.4 and D-01-400-002/SF-000: Levels of Engineering Drawings, para 3.3.2 (level 2).	
6.3. <b>HARD COPY FORMAT</b>	
6.3.1. The TLAD must be printed on paper with these characteristics:	
6.3.1.1. Standard US Ledger size (432 mm x 279 mm)	
6.3.1.2. Weight of no less than 90 gsm;	
6.3.1.3. Brightness of no less than 96 ISO brightness;	
6.4. <b>SOFT COPY FORMAT</b>	
6.4.1. The TLAD must be submitted as a PDF file type, and match the printed format and layout.	
6.4.1.1. Viewing the PDF version: pages, regardless of size, containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape.	
6.4.2. <b>Soft Copy format submission size below 7MB</b> – The TLAD PDF may be submitted via email as follows:	
6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.	
6.4.2.2. Subject Field: HRS-ROV-ILS-201 – TLAD – [Rev #] – [Date of Issue]	
6.4.3. <b>Soft Copy format submission size at or above 7MB</b> - The TLAD PDF must be submitted on CD or DVD media and be labelled as follows:	
6.4.3.1. High Risk Search Remotely Operated Vehicle System	
6.4.3.2. TLAD;	
6.4.3.3. HRS-ROV-ILS-201;	
6.4.3.4. The Revision number, and	
6.4.3.5. The date of issue.	

**A5.7 DID – Application for Spectrum Supportability**

<b>DATA ITEM DESCRIPTION</b>	
1. TITLE <b>Application for Spectrum Supportability</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-202
3. DESCRIPTION This Application for Spectrum Supportability document (DND form 552) describes the general wireless equipment usage as well as the transmitter, antenna and receiver equipment characteristics of the system that is provided.	
4. RELATED DOCUMENTS ANNEX D Application for Spectrum Supportability (DND form 552)	5. CONTRACT REFERENCE SOW: <b>Para. 4.3.1 (pg. 11)</b> CDRL: <b>App. A4.7 (pg. 42)</b>
6. PREPARATION INSTRUCTIONS	
6.1. <b>CONTENT</b>	
6.1.1. The Application for Spectrum Supportability must be completed and provided in accordance with the requirements as outlined in ANNEX D Application for Spectrum Supportability of this Contract.	
6.1.2. The following sections of the Application for Spectrum Supportability must be completed:	
6.1.2.1. Part 1, Block 1 – Equipment Nomenclature and/or Model Number;	
6.1.2.2. Part 2 – Transmitter Equipment Characteristics;	
6.1.2.3. Part 3 – Receiver Equipment Characteristics, and	
6.1.2.4. Part 4 – Antenna Equipment Characteristics.	
6.1.3. The values entered in the Application for Spectrum Supportability must be measured values.	
6.1.4. Where equipment is developmental, specified values may be substituted for measured values, and so indicated on the forms. If the proposed equipment is in use by the United States military it may already have a US Department of Defence (DoD) Form 1494. If available, a DoD 1494 form will be accepted by DND in lieu of a DND 552.	
6.2. <b>GENERAL FORMAT</b>	
6.2.1. The Application for Spectrum Supportability must be prepared as a PDF.	
6.3. <b>SOFT COPY FORMAT</b>	
6.3.1. The Application for Spectrum Supportability must be provided as a PDF file.	
6.3.2. <b>Soft Copy format submission size below 7MB</b> – The Application for Spectrum Supportability may be submitted via email as follows:	
6.3.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.	
6.3.2.2. Subject Field: HRS-ROV-ILS-202 – Application for Spectrum Supportability – [Rev #] – [Date of Issue]	
6.3.3. <b>Soft Copy format submission size at or above 7MB</b> - The Application for Spectrum Supportability file must be submitted on CD or DVD media and be labelled as follows:	
6.3.3.1. High Risk Search Remotely Operated Vehicle System	
6.3.3.2. Application for Spectrum Supportability	
6.3.3.3. HRS-ROV-ILS-202;	
6.3.3.4. The Revision number, and	
6.3.3.5. The date of issue.	

## A5.8 DID – Operator Manual

<b>DATA ITEM DESCRIPTION</b>	
1. TITLE <b>Operator Manual</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-203
3. DESCRIPTION The Operator Manual contains all the essential information required to describe the safe and correct operative procedures and operator maintenance associated with the equipment.	
4. RELATED DOCUMENTS <b>C-01-100-100/AG-008</b> <i>Writer's Guide for Technical Documentation</i>	5. CONTRACT REFERENCE <b>SOW: Para. 4.4.1.1.1 (pg. 12)</b> <b>CDRL: App. A4.8 (pg. 43)</b>
6 PREPARATION INSTRUCTIONS	
6.1 <b>CONTENT</b>	
6.1.1 The Operator Manual must cover the following topics, and others judged pertinent by the Contractor:	
6.1.1.1 General Description/Equipment Overview;	
6.1.1.2 Pre-use testing/inspection;	
6.1.1.3 Preparation and set up for use;	
6.1.1.4 Use and operation, including operation under emergency, adverse, or abnormal conditions, when applicable;	
6.1.1.5 Operator Maintenance, IAW the Maintenance Concept para 4.1 (pg. 11);	
6.1.1.6 Shut-down and post-shut-down actions and precautions;	
6.1.1.7 Preparation for equipment transit by air, land, and sea;	
6.1.1.8 Safety/Hazardous material issues;	
6.1.2 The Operator Manual material covered in 6.1.1 above, must be amplified by illustrations, line drawings, and high quality pictures.	
6.2 <b>GENERAL FORMAT</b>	
6.2.1 The Operator Manual must be prepared in the Contractor's format while being in full conformance with the above-stated issue of C-01-100-100/AG-008.	
6.2.2 The Operator Manual must include the National Defence Index of Documentation (NDID) number, provided to the Contractor by DND, which must be placed on the top right corner of all the pages of the manual.	
6.3 <b>HARD COPY FORMAT</b>	
6.3.1 The accepted Operator Manual hard copies must be:	
6.3.1.1 Printed on paper with these characteristics:	
6.3.1.1.1 Standard US Letter Size (270 mm x 216 mm)	
6.3.1.1.2 Covers: 320-370 gsm polyester film (such as Pico Film), matt surface and white colour	
6.3.1.1.3 Pages: 150-190 gsm polyester film (such as Pico Film), matt surface and white colour	
6.3.1.2 Bound with white or black spiral PVC coil (such as PLASTIKOIL®)	

**6.4 SOFT COPY FORMAT**

- 6.4.1 The Operator Manual must be provided as a PDF file with searchable text that matches the printed publication's format and layout. Links, bookmarks and thumbnails are to be included in the PDF file. All references made to a specific paragraph, figure, appendix must be appropriately linked.
- 6.4.2 Viewing the Operator Manual PDF: pages, regardless of size, containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape.
- 6.4.3 **Soft Copy format submission size below 7MB** – The Operator Manual PDF and its native file may be submitted via email as follows:
  - 6.4.3.1 To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.
  - 6.4.3.2 Subject Field: HRS-ROV-ILS-203 – Operator Manual – [Rev #] – [Date of Issue]
- 6.4.4 **Soft Copy format submission size at or above 7MB** - The Operator Manual PDF and its native file must be submitted on CD or DVD media and be labelled as follows:
  - 6.4.4.1 High Risk Search Remotely Operated Vehicle System
  - 6.4.4.2 Operator Manual;
  - 6.4.4.3 HRS-ROV-ILS-203;
  - 6.4.4.4 The Revision number, and
  - 6.4.4.5 The date of issue.

## A5.9 DID – Operator Quick Reference Card

DATA ITEM DESCRIPTION	
1. TITLE <b>Operator Quick Reference Card</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-204
3. DESCRIPTION Operator Quick Reference Card (OQRC) will allow the trained user to quickly unpack, assemble, and safely use the equipment.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE SOW: <b>Para. 4.4.1.2.1 (pg. 12)</b> CDRL: <b>App. A4.9 (pg. 44)</b>
6. PREPARATION INSTRUCTIONS	
<p>6.1. <b>CONTENT</b></p> <p>6.1.1. The OQRC must contain the necessary instructions to allow a trained user to quickly, safely and effectively operate the equipment.</p> <p>6.1.2. The OQRC must assume that the equipment's initial state is packed in its carrying case.</p> <p>6.1.3. The OQRC instructions must be based on pictograms illustrating the sequence of steps required while using only minimal text to assist in the understanding of the document. Desired look and feel would be similar to commercial airline safety pamphlets describing the use of oxygen masks, and emergency exits.</p> <p>6.1.4. The OQRC must not introduce new information and procedures not also described in the Operator Manual, as the Operator Manual is the master document on how to use the equipment.</p> <p>6.1.5. The OQRC cautionary advisory's heading must be determined based on the criteria set out in ANNEX A SOW para. 4.4.3.1.</p> <p>6.1.6. The OQRC cautionary advisory must read as follows: <b>"This Operator Quick Reference Card is intended solely for experienced users who have been trained on this equipment, and have read and understood its Operator Manual (CFTO# to be supplied by DND). When in doubt, read the Operator Manual before operating this equipment."</b></p> <p>6.1.7. The OQRC cautionary advisory must also have, immediately following this text, a brief description of the consequences of misuse of the equipment, linked to the same criteria listed in 6.1.5 above.</p> <p>6.2. <b>HARD COPY FORMAT</b></p> <p>6.2.1. The accepted OQRC hard copies must:</p> <p style="margin-left: 20px;">6.2.1.1. Be printed on paper with pages of 320-370 gsm polyester film (such as Pico Film), matt surface and white colour, and bound with white or black spiral PVC coil (such as PLASTIKOIL®);</p> <p style="margin-left: 20px;">6.2.1.2. Contain no more than four (4) sheets;</p> <p style="margin-left: 20px;">6.2.1.3. Be produced and printed exclusively in black and white.</p> <p>6.3. <b>SOFT COPY FORMAT</b></p> <p>6.3.1. The OQRC must be provided as a PDF file with searchable text that matches the printed publication's format and layout. Links, bookmarks and thumbnails are to be included in the PDF file. All references made to a specific paragraph, figure, appendix must be appropriately linked.</p> <p>6.3.2. Viewing the OQRC PDF: pages, regardless of size, containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape.</p> <p>6.3.3. <b>Soft Copy format submission size below 7MB</b> – The OQRC PDF and its native file may be submitted via email as follows:</p> <p style="margin-left: 20px;">6.3.3.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.</p> <p style="margin-left: 20px;">6.3.3.2. Subject Field: HRS-ROV-ILS-204 – OQRC – [Rev #] – [Date of Issue]</p>	

6.3.4. **Soft Copy format submission size at or above 7MB** - The OQRC PDF and its native file must be submitted on CD or DVD media and be labelled as follows:

6.3.4.1. High Risk Search Remotely Operated Vehicle System

6.3.4.2. OQRC;

6.3.4.3. HRS-ROV-ILS-204;

6.3.4.4. The Revision number, and

6.3.4.5. The date of issue.

## A5.10 DID – Repair Manual

DATA ITEM DESCRIPTION	
1. TITLE <b>Repair Manual</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-205
3. DESCRIPTION The Repair Manual contains all the information required by the Technician to perform preventative and corrective maintenance procedures and troubleshooting of the equipment.	
4. RELATED DOCUMENTS <b>D-01-100-204/SF-000</b> <i>Preparation of Preventive Maintenance Instructions</i> <b>D-01-100-205/SF-000</b> <i>Preparation of Corrective Maintenance Instructions</i> <b>C-01-100-100/AG-008</b> <i>Writer's Guide for Technical Documentation</i>	5. CONTRACT REFERENCE <b>SOW: Para. 4.4.1.3.1 (pg. 12)</b> <b>CDRL: App. A4.10 (pg. 45)</b>
6. PREPARATION INSTRUCTIONS	
6.1. <b>CONTENT</b>	
6.1.1. The Repair Manual must provide descriptive essential, preventive and corrective maintenance information on all components, groups of equipment and systems IAW the Maintenance Concept, Para. 4.1 (pg. 11).	
6.1.2. The Repair Manual text must be amplified by comprehensive system or component illustration, good quality color pictures, pictograms and schematics.	
6.2. <b>GENERAL FORMAT</b>	
6.2.1. The Repair Manual must be prepared in the Contractor's format and be in full conformance with the current issue of C-01-100-100/AG-008, D-01-100-204/SF-000 and D-01-100-205/SF-000.	
6.2.2. The Repair Manual must include the National Defence Index of Documentation (NDID) number, provided to the Contractor by DND, which must be placed on the right top corner of all the pages of the manual.	
6.2.3. The Repair Manual should use illustrations, good quality color pictures and pictograms as much as possible.	
6.3. <b>HARD COPY FORMAT</b>	
6.3.1. The accepted Repair Manual hard copies must be:	
6.3.1.1. Printed on paper with these characteristics:	
6.3.1.1.1. Standard US Letter Size (216 mm x 270 mm)	
6.3.1.1.2. Covers: 320-370 gsm polyester film (such as Pico Film), matt surface and white colour	
6.3.1.1.3. Pages: 150-190 gsm polyester film (such as Pico Film), matt surface and white colour	
6.3.1.2. Bound with white or black spiral PVC coil (such as PLASTIKOIL®)	
6.4. <b>SOFT COPY FORMAT</b>	
6.4.1. The Repair Manual soft copy format must meet the following:	
6.4.1.1. Be a PDF file that matches the printed publication's format and layout. Links, bookmarks, and thumbnails are to be included in the PDF file.	
6.4.1.2. All references made to a specific paragraph, figure, appendix must be appropriately linked.	
6.4.1.3. Viewing the PDF: pages, regardless of size, containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape.	
6.4.2. <b>Soft Copy format submission size below 7MB</b> – The Repair Manual PDF and its native file may be submitted via email as follows:	

- 6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.
- 6.4.2.2. Subject Field: HRS-ROV-ILS-205 – Repair Manual – [Rev #] – [Date of Issue]
- 6.4.3. **Soft Copy format submission size at or above 7MB** - The Repair Manual PDF and its native file must be submitted on CD or DVD media and be labelled as follows:
- 6.4.3.1. High Risk Search Remotely Operated Vehicle System
  - 6.4.3.2. Repair Manual;
  - 6.4.3.3. HRS-ROV-ILS-205;
  - 6.4.3.4. The Revision number, and
  - 6.4.3.5. The date of issue.

## A5.11 DID – Illustrated Parts Manual

DATA ITEM DESCRIPTION	
1. TITLE <b>Illustrated Parts Manual</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-206
3. DESCRIPTION The Illustrated Parts Manual contains all the necessary information to positively identify all parts of the equipment.	
4. RELATED DOCUMENTS <b>D-01-100-207/SF-002</b> <i>Preparation of Interim Illustrated Parts Manuals for Land Equipment.</i>	5. CONTRACT REFERENCE <b>SOW: Para. 4.4.1.4.1 (pg. 12)</b> <b>CDRL: App. A4.11 (pg. 46)</b>
6 PREPARATION INSTRUCTIONS	
<p><b>6.1 CONTENT</b></p> <p>6.1.1 The Illustrated Parts Manual content must be IAW D-01-100-207/SF-002, and the drawings must be sequenced as per the PPB breakdown of assemblies, and a major assembly must be fully broken down before the next major assembly is shown.</p> <p>6.1.2 The Illustrated Parts Manual must contain illustrations, exploded views, and drawings and associated lists necessary for the proper identification of all parts, assemblies, and special equipment to the Lowest Replaceable Unit (LRU) IAW the Maintenance Concept para. 4.1 (pg. 11).</p> <p>6.1.3 The exploded views contained in the Illustrated Parts Manual must amplify the relationship between all parts and assemblies to facilitate repair of the equipment and the replacement of parts and assemblies down to the LRU.</p> <p>6.1.4 The Illustrated Parts Manual must include the National Defence Index of Documentation (NDID) number, provided to the Contractor by DND, which must be placed on the top right corner of each page of the manual.</p> <p><b>6.2 GENERAL FORMAT</b></p> <p>6.2.1 The format of the Illustrated Parts Manual must be IAW D-01-100-207/SF-002, with the exception that "NCAGE" must be used instead of "NSCM".</p> <p>6.2.2 The Illustrated Parts Manual must <b>not</b> use photographs as illustrations.</p> <p><b>6.3 HARD COPY FORMAT</b></p> <p>6.3.1 The accepted Illustrated Parts Manual hard copies must be:</p> <p style="margin-left: 20px;">6.3.1.1 Printed on paper with these characteristics:</p> <p style="margin-left: 40px;">6.3.1.1.1 Standard US Letter Size (216 mm x 270 mm)</p> <p style="margin-left: 40px;">6.3.1.1.2 Covers: 320-370 gsm polyester film (such as Pico Film), matt surface and white colour</p> <p style="margin-left: 40px;">6.3.1.1.3 Pages: 150-190 gsm polyester film (such as Pico Film), matt surface and white colour</p> <p style="margin-left: 20px;">6.3.1.2 Bound with white or black spiral PVC coil (such as PLASTIKOIL®)</p> <p><b>6.4 SOFT COPY FORMAT</b></p> <p>6.4.1 The Illustrated Parts Manual soft copy format must be PDF, with searchable text, with pages rotated as needed for normal viewing on screen.</p> <p>6.4.2 <b>Soft Copy format submission size below 7MB</b> – The Illustrated Parts Manual PDF may be submitted via email as follows:</p> <p style="margin-left: 20px;">6.4.2.1 To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.</p>	

6.4.2.2 Subject Field: HRS-ROV-ILS-206 – Illustrated Parts Manual – [Rev #] – [Date of Issue]

6.4.3 **Soft Copy format submission size at or above 7MB** - The Illustrated Parts Manual PDF and its native file must be submitted on CD or DVD media and be labelled as follows:

6.4.3.1 High Risk Search Remotely Operated Vehicle System

6.4.3.2 Illustrated Parts Manual;

6.4.3.3 HRS-ROV-ILS-206;

6.4.3.4 The Revision number, and

6.4.3.5 The date of issue.

**A5.12 DID – Operator Training Package**

<b>DATA ITEM DESCRIPTION</b>	
1. TITLE <b>Operator Training Package</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-207
3. DESCRIPTION The Operator Training Package will be used as the reference material during the Training Sessions, and to facilitate future lesson plan preparation on the operation, Operator maintenance and storage of the equipment.	
4. RELATED DOCUMENTS <b>C-01-100-100/AG-008</b> <i>Writer's Guide for Technical Documentation</i>	5. CONTRACT REFERENCE <b>SOW: Para. 4.4.1.5.1 (pg. 12)</b> <b>CDRL: App. A4.12 (pg. 47)</b>
6. PREPARATION INSTRUCTIONS	
6.1. <b>CONTENT</b>	
6.1.1. The Operator Training Package course material must include, in the order judged most appropriate by the Contractor, the following subjects:	
6.1.1.1. General Description/Equipment Overview;	
6.1.1.2. Pre-use testing/inspection;	
6.1.1.3. Preparation and set up for use;	
6.1.1.4. Use and operation, including operation under emergency, adverse, or abnormal conditions, when applicable;	
6.1.1.5. Preparation for travel and handling;	
6.1.1.6. Storage, preservation, exercising, and reactivation procedures;	
6.1.1.7. Safety and Hazardous material issues;	
6.1.1.8. Operator Troubleshooting and testing;	
6.1.1.9. Basic diagnosis and fault finding; and,	
6.1.1.10. Operator Maintenance IAW the Maintenance Concept para. 4.1 (pg. 11).	
6.1.2. The Operator Training Package course material subjects must be approached from the perspective of the students have basic skillset/experience in ROV operation.	
6.1.3. The Operator Training Package course material must not present any information that cannot also be found in the Technical Publication Package documents; those documents remain the primary reference for the equipment.	
6.1.4. The Operator Training Package must include a <b>Student Handout</b> that includes the course material described above.	
6.1.5. The Operator Training Package must include an <b>Instructor Lesson Plan</b> that includes the course material described above, speaker's notes, and outlines the following:	
6.1.5.1. Classroom's physical and functional requirements;	
6.1.5.2. Field area's physical and functional requirements;	
6.1.5.3. Training Session schedule, divided by course material subjects;	
6.1.5.4. Instructor/Student ratio for the course material subjects;	
6.1.5.5. Training materiel to be supplied by the Contractor;	
6.1.5.6. Training material to be supplied by Canada.	

6.2. **GENERAL FORMAT**

- 6.2.1. The Operator Training Package can be prepared in the Contractor's format while using C-01-100-100/AG-008 as guidance.
- 6.2.2. No Contractor or sub-contractor logo, name, trademark, or other wording or device that may be interpreted as advertising must appear in the publication.
- 6.2.3. The Operator Training Package **Student Handout** must have no more than three (3) slides per page of the course material, and have additional space and lines for note taking.
- 6.2.4. The Operator Training Package **Instructor Lesson Plan** must have one (1) slide per page of the course material, with the speaker's notes below it.

6.3. **HARD COPY FORMAT**

- 6.3.1. The Operator Training Package must be furnished in a three (3) ring binder(s) and printed on paper with these characteristics:
  - 6.3.1.1. Weight of no less than 90 gsm;
  - 6.3.1.2. Brightness of no less than 96 ISO brightness;

6.4. **SOFT COPY FORMAT**

- 6.4.1. The Operator Training Package soft copy format must be MS PowerPoint.
- 6.4.2. **Soft Copy format submission size below 7MB** – The Operator Training Package may be submitted via email as follows:
  - 6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.
  - 6.4.2.2. Subject Field: HRS-ROV-ILS-207 – Operator Training Package – [Rev #] – [Date of Issue]
- 6.4.3. **Soft Copy format submission size at or above 7MB** - The Operator Training Package file must be submitted on CD or DVD media and be labelled as follows:
  - 6.4.3.1. High Risk Search Remotely Operated Vehicle System
  - 6.4.3.2. Operator Training Package;
  - 6.4.3.3. HRS-ROV-ILS-207;
  - 6.4.3.4. The Revision number, and
  - 6.4.3.5. The date of issue.

**A5.13 DID – Technician Training Package**

<b>DATA ITEM DESCRIPTION</b>	
1. TITLE <b>Technician Training Package</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-208
3. DESCRIPTION The Technician Training Package will be used as the reference material during the Training Sessions, and to facilitate future lesson plan preparation on the operation, Technician maintenance and storage of the equipment.	
4. RELATED DOCUMENTS <b>C-01-100-100/AG-008</b> <i>Writer's Guide for Technical Documentation</i>	5. CONTRACT REFERENCE SOW: <b>Para. 4.4.1.6.1 (pg. 13)</b> CDRL: <b>App. A4.13 (pg. 48)</b>
6. PREPARATION INSTRUCTIONS 6.1. <b>CONTENT</b> 6.1.1. The Technician Training Package course material must include, in the order judged most appropriate by the Contractor, the following subjects: 6.1.1.1. General Description/Equipment Overview; 6.1.1.2. Pre-use testing/inspection; 6.1.1.3. Preparation and set up for use; 6.1.1.4. Use and operation, including operation under emergency, adverse, or abnormal conditions, when applicable; 6.1.1.5. Storage, preparation for travel, preservation, and handling procedures; 6.1.1.6. Safety and Hazardous material issues; 6.1.1.7. Troubleshooting and testing; 6.1.1.8. Advanced diagnosis and fault finding; 6.1.1.9. Corrective and preventive maintenance procedures that are particular to the equipment versus general mechanical procedures, IAW the Maintenance Concept para. 4.1 (pg. 11). 6.1.2. The Technician Training Package course material subjects must be approached from the perspective of the students have basic skillset/experience in ROV maintenance. 6.1.3. The Technician Training Package course material must not present any information that cannot also be found in the Technical Publication Package documents; those documents remain the primary reference for the equipment. 6.1.4. The Technician Training Package must include a <b>Student Handout</b> that includes the course material described above. 6.1.5. The Technician Training Package must include an <b>Instructor Lesson Plan</b> that includes the course material described above, speaker's notes, and outlines the following: 6.1.5.1. Classroom's physical and functional requirements; 6.1.5.2. Field area's physical and functional requirements; 6.1.5.3. Training Session schedule divided by course material subjects; 6.1.5.4. Instructor/Student ratio for the course material subjects; 6.1.5.5. Training materiel to be supplied by the Contractor; 6.1.5.6. Training material to be supplied by Canada.	

6.2. **GENERAL FORMAT**

- 6.2.1. The Technician Training Package can be prepared in the Contractor's format, using C-01-100-100/AG-008 as guidance.
- 6.2.2. No Contractor or sub-contractor logo, name, trademark, or other wording or device that may be interpreted as advertising must appear in the publication.
- 6.2.3. The Technician Training Package **Student Handout** must have no more than three (3) slides per page of the course material, and have additional space and lines for note taking.
- 6.2.4. The Technician Training Package **Instructor Lesson Plan** must have one (1) slide per page of the course material, with the speaker's notes below it.

6.3. **HARD COPY FORMAT**

- 6.3.1. The Technician Training Package must be furnished in a three (3) ring binder(s) and printed on paper with these characteristics:
  - 6.3.1.1. Weight of no less than 90 gsm;
  - 6.3.1.2. Brightness of no less than 96 ISO brightness;

6.4. **SOFT COPY FORMAT**

- 6.4.1. The Technician Training Package soft copy format must be MS PowerPoint.
- 6.4.2. **Soft Copy format submission size below 7MB** – The Technician Training Package may be submitted via email as follows:
  - 6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.
  - 6.4.2.2. Subject Field: HRS-ROV-ILS-208 – Technician Training Package – [Rev #] – [Date of Issue]
- 6.4.3. **Soft Copy format submission size at or above 7MB** - The Technician Training Package file must be submitted on CD or DVD media and be labelled as follows:
  - 6.4.3.1. High Risk Search Remotely Operated Vehicle System
  - 6.4.3.2. Technician Training Package;
  - 6.4.3.3. HRS-ROV-ILS-208;
  - 6.4.3.4. The Revision number, and
  - 6.4.3.5. The date of issue.

**A5.14 DID – Provisioning Parts Breakdown**

DATA ITEM DESCRIPTION															
1. TITLE  <b>Provisioning Parts Breakdown</b>	2. IDENTIFICATION NUMBER  DID HRS-ROV-ILS-209														
3. DESCRIPTION  The Provisioning Parts Breakdown (PPB) is a top-down breakdown of the equipment in the configuration in which it is being procured. This breakdown is accomplished by listing all parts included in the end item in a lateral and descending family tree/generation breakdown. In this breakdown, all assemblies, subassemblies and parts are listed in relation to the next higher assembly. This relationship is shown by means of an indention code as illustrated in the top-down breakdown sequence. For example, an assembly with indention code B must be followed by a detailed breakdown of all the subsequent indention codes pertaining to that assembly before the next indention code B assembly (if any) is, in turn, broken down.															
4. RELATED DOCUMENTS  <b>D-01-100-214/SF-000</b> <i>Specification for Preparation of Provisioning Documentation for Canadian Forces Equipment</i>	5. CONTRACT REFERENCE  SOW: <b>Para. 4.5.1.1.1 (pg. 14)</b> CDRL: <b>App. A4.14 (pg. 49)</b>														
6 PREPARATION INSTRUCTIONS 6.1 <b>CONTENT</b> 6.1.1 The PPB must contain data as per Table 1 below, which supersedes Figures 1 and 5 in D-01-100-214/SF-000. 6.1.2 The PPB attaching parts and fasteners, given a “Y” indention code, must immediately follow the part which they fasten. 6.1.3 The PPB Data Field definitions can be found at section 3.9.4 of the D-01-100-214/SF-000 specification. The following override applies: <i>Expanded Description (SPTD)</i> must contain the line item’s applicable SPTD filename. 6.1.4 For clarity: 6.1.4.1 <i>Original Equipment Manufacturer’s Part Number</i> refers only to the Contractor which DND has contracted to supply the equipment; data from sub-contractors for items that they did not manufacture or do not control are not permitted. This field may be left blank if no data is available, or if it is the same as the MRN. 6.1.4.2 <i>Quantity per Assembly (QPA)</i> refers to the number of times the item is used in the next higher assembly. For example, a C-level item’s QPA will show the number of times it is used in its related B-level assembly, without being multiplied by the number of B-level assemblies. 6.1.4.3 <i>Quantity per Equipment (QPE)</i> refers to the total number of times the item is used in the whole prime equipment (A-level). If that quantity exceeds 99999, the figure will show 99999 in the field, with the true quantity (if known) shown in the <i>Expanded Description</i> field. 6.1.4.4 <i>NATO Commercial and Government Entity (NCAGE) Codes</i> can be searched and requested through the NATO portal: <a href="https://eportal.nspa.nato.int/AC135Public/scage/CageList.aspx">https://eportal.nspa.nato.int/AC135Public/scage/CageList.aspx</a> .															
<b>TABLE 1</b> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">DATA FIELDS REQUIRED</th> <th style="text-align: center;">Field Length</th> </tr> </thead> <tbody> <tr> <td>Item Number</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Indention Code</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Item Name</td> <td style="text-align: center;">32</td> </tr> <tr> <td>MRN</td> <td style="text-align: center;">30</td> </tr> <tr> <td>NCAGE</td> <td style="text-align: center;">5</td> </tr> <tr> <td>OEM’s Part Number</td> <td style="text-align: center;">30</td> </tr> </tbody> </table>		DATA FIELDS REQUIRED	Field Length	Item Number	6	Indention Code	1	Item Name	32	MRN	30	NCAGE	5	OEM’s Part Number	30
DATA FIELDS REQUIRED	Field Length														
Item Number	6														
Indention Code	1														
Item Name	32														
MRN	30														
NCAGE	5														
OEM’s Part Number	30														

NATO Stock Number	16
Quantity Per Assembly (QPA)	4
Quantity Per Equipment (QPE)	5
Standard Unit Price	9
Unit Of Issue	2
Reparability Indicator (REP)	1
Government Supplied Material (GSM)	1
Procurement Lead Time (PLT)	3
Shelf Life	2
Usage Rate	5
Recommended Buy Quantity	8
SMR Code	5
Expanded Description	34
Expanded Description (SPTD)	74

6.1.5 The Source Maintenance and Recoverability (SMR) Codes are used to communicate maintenance and supply instructions to the various logistic support levels and user organizations for the logistic support of systems, equipment, and end items. The PPB SMR Codes must be chosen from the following list:

SMR Field Position	Code	Application/Explanation
First and Second Position Source Codes	PA	Item procured and stocked for anticipated or known usage. Items are normally considered for replenishment
	PC	Item procured and stocked, but is deteriorative in nature.
	PF	Support equipment which will not be stocked, but which will be centrally procured on demand.
	XA	Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly
	XC	Installation drawing, diagram, instruction sheet, or field Service drawing, that is identified by the manufacturers' part number.
Third Position Maintenance Codes	C	Support item is removed, replaced, used by the operator/crew.
	O	Support item is removed, replaced, or used at the Technician Maintenance level.
	K	Repairable item. Item is removed, replaced, or used at contractor facility.
Fourth Position Repair Codes	C	The lowest maintenance activity capable of complete repair of the support item is the operator/crew.
	O	The lowest maintenance activity capable of complete repair of the support item is the Technician Maintenance level.
	K	Repairable support item. Complete repair capability exists at a designated contractor facility.
	Z	Non-repairable.
Fifth Position Recoverability Codes	C	Repairable item. When uneconomically repairable, condemn and disposed by the operator/crew.
	Z	Non-repairable item. When item becomes unserviceable, condemn and disposed of by authorized activity.
	O	Repairable item. When uneconomically repairable, condemn and dispose at organizational activity.
	K	Repairable item. Condemnation and disposal to be performed at contractor facility.

## 6.2 GENERAL FORMAT

6.2.1 The PPB must be prepared as an MS Excel spreadsheet, formatted IAW D-01-100-214/SF-000.

## 6.3 HARD COPY FORMAT

6.3.1 The PPB must be printed on paper with these characteristics:

- 6.3.1.1 Standard US Ledger size (432 mm x 279 mm)
- 6.3.1.2 Weight of no less than 90 gsm;
- 6.3.1.3 Brightness of no less than 96 ISO brightness;

**6.4 SOFT COPY FORMAT**

- 6.4.1 The PPB must be provided as an MS Excel Spreadsheet file.
- 6.4.2 **Soft Copy format submission size below 7MB** – The PPB may be submitted via email as follows:
  - 6.4.2.1 To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.
  - 6.4.2.2 Subject Field: HRS-ROV-ILS-209 – PPB – [Rev #] – [Date of Issue]
- 6.4.3 **Soft Copy format submission size at or above 7MB** - The PPB file must be submitted on CD or DVD media and be labelled as follows:
  - 6.4.3.1 High Risk Search Remotely Operated Vehicle System
  - 6.4.3.2 Provisioning Parts Breakdown;
  - 6.4.3.3 HRS-ROV-ILS-209;
  - 6.4.3.4 The Revision number, and
  - 6.4.3.5 The date of issue.

## A5.15 DID – Supplementary Provisioning Technical Documentation

DATA ITEM DESCRIPTION	
1. TITLE <b>Supplementary Provisioning Technical Documentation</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-210
3. DESCRIPTION The Supplementary Provisioning Technical Documentation (SPTD) fully identifies and describes part(s) that may be catalogued.	
4. RELATED DOCUMENTS <b>D-01-100-214/SF-000</b> <i>Specification for Preparation of Provisioning Documentation for Canadian Forces Equipment</i> <b>D-01-400-001/SG-000</b> <i>Standard - Engineering Drawing Practices</i>	5. CONTRACT REFERENCE <b>SOW: Para. 4.5.1.2.1 (pg. 15)</b> <b>CDRL: App. A4.15 (pg. 50)</b>
6. <b>PREPARATION INSTRUCTIONS</b>	
6.1. <b>CONTENT</b>	
6.1.1. The Supplementary Provisioning Technical Documentation (SPTD) must be provided for each item appearing on the Provisioning Documentation, as follows:	
6.1.1.1. The SPTD must include the technical data required for DND to classify and fully describe the item within the NATO codification system, allowing for item identification and cataloguing purposes.	
6.1.1.2. Key elements of good SPTD:	
6.1.1.2.1. Displays the true manufacturer company logo & address (or NCAGE), and MRN (see D-01-100-214/SF-000 for definitions.).	
6.1.1.2.2. Lists characteristic data about the item:	
6.1.1.2.2.1. Configuration;	
6.1.1.2.2.2. Physical characteristics, such as dimensions, tolerances, material, mandatory processes, surface finish, and protective coatings;	
6.1.1.2.2.3. Electrical Characteristics;	
6.1.1.2.2.4. Performance data;	
6.1.1.2.2.5. Special features which contribute to the uniqueness of the item, especially for common items modified to a particular standard of performance.	
6.1.1.2.3. Clearly shows the item in question.	
6.1.1.2.4. Shows where the item fits in the next higher assembly (where practical).	
6.2. <b>GENERAL FORMAT</b>	
6.2.1. The SPTD must be prepared as black and white line drawing(s) or with good quality photograph(s) within a Technical Datasheet.	
6.2.1.1. If prepared as a drawing, the SPTD must follow the drawing format of D-01-400-001/SG-000 section 7.4, with attached parts lists (for assemblies), so that DND can ensure that the Provisioning Documentation reflects the current and complete configuration of the equipment being produced.	
6.3. <b>HARD COPY FORMAT</b>	
6.3.1. The SPTD must be printed on Ledger (11x17) paper with these characteristics:	
6.3.1.1. Weight of no less than 90 gsm;	
6.3.1.2. Brightness of no less than 96 ISO brightness;	
6.4. <b>SOFT COPY FORMAT</b>	
6.4.1. The SPTD must be submitted in PDF file type, with filenames in the following format: (MRN)_(NCAGE)_(item name).pdf.	
6.4.2. <b>Soft Copy format submission size below 7MB</b> – The SPTD PDFs may be submitted via email as follows:	

6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.4.2.2. Subject Field: HRS-ROV-ILS-210 – SPTD – [Rev #] – [Date of Issue]

6.4.3. **Soft Copy format submission size at or above 7MB** – The SPTD PDFs must be submitted on CD or DVD media and be labelled as follows:

6.4.3.1. High Risk Search Remotely Operated Vehicle System

6.4.3.2. SPTD;

6.4.3.3. HRS-ROV-ILS-210;

6.4.3.4. The Revision number, and

6.4.3.5. The date of issue.

**A5.16 DID – Special Tools and Test Equipment**

<b>DATA ITEM DESCRIPTION</b>	
<p>1. TITLE</p> <p><b>Special Tools and Test Equipment</b></p>	<p>2. IDENTIFICATION NUMBER</p> <p>DID HRS-ROV-ILS-211</p>
<p>3. DESCRIPTION</p> <p>The Special Tools and Test Equipment (STTE) provides a list of all special tools and testing equipment, that are not in the DND inventory, required to maintain and operate the equipment.</p>	
<p>4. RELATED DOCUMENTS</p>	<p>5. CONTRACT REFERENCE</p> <p>SOW: <b>Para. 4.5.1.3.1 (pg. 15)</b></p> <p>CDRL: <b>App. A4.16 (pg. 51)</b></p>
<p>6. PREPARATION INSTRUCTIONS</p> <p><b>6.1. CONTENT</b></p> <p>6.1.1. The STTE must include the following for each item listed:</p> <ul style="list-style-type: none"> <li>6.1.1.1. Item Name;</li> <li>6.1.1.2. Reference (Manufacturer's Part) Number;</li> <li>6.1.1.3. NCAGE;</li> <li>6.1.1.4. NSN (if available);</li> <li>6.1.1.5. Maintenance Level;</li> <li>6.1.1.6. Recommended Buy Quantity;</li> <li>6.1.1.7. Standard Unit Price;</li> <li>6.1.1.8. Date of First Article Delivery;</li> <li>6.1.1.9. Picture(s) or Drawing(s) of item; and,</li> <li>6.1.1.10. Description and Function of STTE</li> </ul> <p>6.1.2. The above STTE item list may be divided into sub-sections such as:</p> <ul style="list-style-type: none"> <li>6.1.2.1. Operations Support Equipment;</li> <li>6.1.2.2. Maintenance Support Equipment;</li> <li>6.1.2.3. Calibration Equipment;</li> <li>6.1.2.4. Test, Measurement and Diagnostic Equipment (TMDE);</li> <li>6.1.2.5. Automatic Test Equipment (ATE) and its Test Program Set (TPS); and</li> <li>6.1.2.6. Computer Resources Support Requirement.</li> </ul> <p><b>6.2. GENERAL FORMAT</b></p> <p>6.2.1. The STTE must be prepared as an MS Excel spreadsheet</p> <p><b>6.3. HARD COPY FORMAT</b></p> <p>6.3.1. The STTE must be printed on paper with these characteristics:</p> <ul style="list-style-type: none"> <li>6.3.1.1. Weight of no less than 90 gsm;</li> <li>6.3.1.2. Brightness of no less than 96 ISO brightness;</li> </ul>	

6.4. **SOFT COPY FORMAT**

- 6.4.1. The STTE must be provided as an MS Excel Spreadsheet file.
- 6.4.2. **Soft Copy format submission size below 7MB** – The STTE may be submitted via email as follows:
  - 6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.
  - 6.4.2.2. Subject Field: HRS-ROV-ILS-211 – STTE – [Rev #] – [Date of Issue]
- 6.4.3. **Soft Copy format submission size at or above 7MB** – The STTE file must be submitted on CD or DVD media and be labelled as follows:
  - 6.4.3.1. High Risk Search Remotely Operated Vehicle System
  - 6.4.3.2. Special Tools and Test Equipment
  - 6.4.3.3. HRS-ROV-ILS-211;
  - 6.4.3.4. The Revision number, and
  - 6.4.3.5. The date of issue.

**A5.17 DID – Identification Plates – Design Template & Populated Designs**

<b>DATA ITEM DESCRIPTION</b>	
1. TITLE <b>Identification Plates – Design Template &amp; Populated Designs</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-212
3. DESCRIPTION The Identification Plates uniquely identify equipment and components and spares based on the procedures governing the identification marking of Canadian military property.	
4. RELATED DOCUMENTS <b>D-02-002-001/SG-001</b> <i>Canadian Forces Standard Identification Marking of Canadian Military Property</i> <b>D-01-400-002/SF-000</b> <i>Specification - Levels of Engineering Drawings</i>	5. CONTRACT REFERENCE <b>SOW: Para. 4.7.1 (pg. 15)</b> <b>CDRL: App. A4.17 (pg. 52)</b>
6. PREPARATION INSTRUCTIONS 6.1. <b>CONTENT AND GENERAL FORMAT</b> 6.1.1. In accordance with D-02-002-001/SG-001, the Identification Plates affixed to each item included in Annex A SOW para 4.7.2 must be of size, format, and construction appropriate for the item being identified, and contain the data required for those Identification Plate formats in both official languages. 6.1.2. The Identification Plates Design Template & Populated Designs must be prepared as representative Level 2 drawings (see D-01-400-002/SF-000). 6.1.2.1. The Level 2 drawings must include the mounting or installation method for each Identification Plate, with any fasteners described by size, and/or technical standard, and/or NSN, and quantity. 6.2. <b>HARD COPY FORMAT</b> 6.2.1. The Identification Plates Design Template & Populated Designs must be: 6.2.1.1. Printed in 1:1 scale; 6.2.1.2. Printed on Standard US Ledger size paper (432 mm x 279 mm), with a: 6.2.1.2.1. Weight of no less than 90 gsm; 6.2.1.2.2. Brightness of no less than 96 ISO brightness; 6.3. <b>SOFT COPY FORMAT</b> 6.3.1. The Identification Plates Design Template & Populated Designs must be provided as PDF files, filename labelled in the following way: [Item Name]_[MRN].pdf. 6.3.2. The Identification Plates Design Template and Populated Designs PDFs containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape. 6.3.3. <b>Soft Copy format submission size below 7MB</b> – The Identification Plates Design Template & Populated Designs may be submitted via email as follows: 6.3.3.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract. 6.3.3.2. Subject Field: HRS-ROV-ILS-212 – Identification Plates – [Rev #] – [Date of Issue] 6.3.4. <b>Soft Copy format submission size at or above 7MB</b> – The Identification Plates Design Template & Populated Designs file must be submitted on CD or DVD media and be labelled as follows: 6.3.4.1. High Risk Search Remotely Operated Vehicle System 6.3.4.2. Identification Plates 6.3.4.3. HRS-ROV-ILS-212; 6.3.4.4. The Revision number, and	

6.3.4.5. The date of issue.

**A5.18 DID – Controlled & Non-Controlled Goods List**

<b>DATA ITEM DESCRIPTION</b>	
1. TITLE <b>Controlled &amp; Non-Controlled Goods List (CNCGL)</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-213
3. DESCRIPTION  <p><u>Controlled Goods Items</u> – The CNCGL identifies if the controlled goods end items, components and sub-components of the equipment are specifically designed and modified for military purpose, and provides the Demilitarization Instructions if required.</p> <p><u>Non-Controlled Goods Items</u> – The CNCGL still includes non-controlled goods end items, components and sub-components of the equipment, as they will still require a DMC assignment.</p>	
4. RELATED DOCUMENTS <b>C-02-007-000/AG-001</b> <i>Controlled Technology Access and Transfer (CTAT) Manual</i>	5. CONTRACT REFERENCE SOW: <b>Para. 4.8.1 (pg. 16)</b> CDRL: <b>App. A4.18 (pg. 53)</b>
6. PREPARATION INSTRUCTIONS <p>6.1. <b>CONTENT</b></p> <p>6.1.1. The CNCGL must identify end items accordingly, IAW C-02-007-000/AG-001:</p> <p style="margin-left: 20px;">6.1.1.1. For Canadian origin items, Canada’s Export Control List (ECL) articles that apply in accordance with the Defence Product Act (DPA);</p> <p style="margin-left: 20px;">6.1.1.2. For US origin dual use, the Export Control Classification Number (ECCN) of the Commerce Control List that applies;</p> <p style="margin-left: 20px;">6.1.1.3. For US origin controlled goods also known as defence articles, the United States Munitions List (USML) Category and paragraph that apply in accordance with the International Traffic in Arms Regulations (ITAR);</p> <p style="margin-left: 20px;">6.1.1.4. For all other countries other than Canada and the USA, the category and article of the Wassenaar Control List that applies, and</p> <p style="margin-left: 20px;">6.1.1.5. All items require a Demilitarization Code (DMC).</p> <p>6.2. <b>GENERAL FORMAT</b></p> <p>6.2.1. The CNCGL must be in spreadsheet format with 6 columns:</p> <p style="margin-left: 20px;">6.2.1.1. Item name, as per the PPB;</p> <p style="margin-left: 20px;">6.2.1.2. Manufacturer’s Reference Part Number, as per the PPB;</p> <p style="margin-left: 20px;">6.2.1.3. Ref para for Canadian origin items (ECL), if required;</p> <p style="margin-left: 20px;">6.2.1.4. Ref para for US origin controlled goods (USML), if required;</p> <p style="margin-left: 20px;">6.2.1.5. DMC;</p> <p style="margin-left: 20px;">6.2.1.6. Formal Demilitarisation Instructions, if DMC is F;</p> <p style="margin-left: 20px;">6.2.1.7. Remarks.</p> <p>6.3. <b>HARD COPY FORMAT</b></p> <p>6.3.1. The CNCGL must be printed on paper with these characteristics:</p> <p style="margin-left: 20px;">6.3.1.1. Weight of no less than 90 gsm;</p> <p style="margin-left: 20px;">6.3.1.2. Brightness of no less than 96 ISO brightness;</p>	

6.4. **SOFT COPY FORMAT**

- 6.4.1. The CNCGL must be provided as an MS Excel Spreadsheet file.
- 6.4.2. **Soft Copy format submission size below 7MB** – The CNCGL may be submitted via email as follows:
  - 6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.
  - 6.4.2.2. Subject Field: HRS-ROV-ILS-213 – CNCGL – [Rev #] – [Date of Issue]
- 6.4.3. **Soft Copy format submission size at or above 7MB** – The CNCGL file must be submitted on CD or DVD media and be labelled as follows:
  - 6.4.3.1. High Risk Search Remotely Operated Vehicle System
  - 6.4.3.2. CNCGL
  - 6.4.3.3. HRS-ROV-ILS-213;
  - 6.4.3.4. The Revision number, and
  - 6.4.3.5. The date of issue.

### A5.19 DID – Packaging, Labels and Codes

DATA ITEM DESCRIPTION	
1. TITLE <b>Packaging, Labels and Codes</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-214
3. DESCRIPTION The Packaging, Labels and Codes ensures that the labelling used to identify packages for items procured by DND and shipped to and stored at a Canadian facility comply with CAF Specifications. As well, this will allow DND to obtain a complete record of packaging codes for catalogued items of the equipment.	
4. RELATED DOCUMENTS <b>D-LM-008-011/SF-001</b> <i>Preparation and Use of Packaging Requirements Codes</i> <b>D-LM-008-002/SF-001</b> <i>Specification for Marking for Storage and Shipment</i> <b>D-01-400-002/SF-000</b> <i>Specification - Levels of Engineering Drawings</i>	5. CONTRACT REFERENCE SOW: <b>Para. 4.9.3 (pg. 16)</b> CDRL: <b>App. A4.19 (pg. 54)</b>
6. PREPARATION INSTRUCTIONS	
6.1. <b>CONTENT AND GENERAL FORMAT</b>	
6.1.1. The Packaging Label design, populated with the appropriate data, must be provided as a Level 1 drawings (see D-01-400-002/SF-000) and include dimensions to show the measurements as defined by D-LM-008-002/SF-001 (example: text size, bar code dimensions).	
6.1.2. The Packaging Codes prepared from D-LM-008-011/SF-001 for the Packaging Labels for each item must be compiled into an MS Excel spreadsheet containing the following columns of data, titled as below:	
6.1.2.1. Item Name – as given by the Contractor;	
6.1.2.2. Manufacturer's Reference Number (MRN) – Source manufacturer's part number;	
6.1.2.3. NCAGE – Source Manufacturer's NCAGE;	
6.1.2.4. Original Equipment Manufacturer part number – Part number assigned by Contractor;	
6.1.2.5. NATO Nomenclature – Item name as assigned by NATO;	
6.1.2.6. NATO Stock Number;	
6.1.2.7. Packaging Code – as resolved by the Contractor;	
6.1.2.8. Label Number – cross-referenced with the label drawing number from 6.1.1 above.	
6.2. <b>HARD COPY FORMAT</b>	
6.2.1. The Packaging <b>Labels</b> must be printed on paper with these characteristics:	
6.2.1.1. Standard US Ledger size (432 mm x 279 mm)	
6.2.1.2. Weight of no less than 90 gsm;	
6.2.1.3. Brightness of no less than 96 ISO brightness;	
6.2.2. The Packaging <b>Codes</b> must be printed on paper with these characteristics:	
6.2.2.1. Weight of no less than 90 gsm;	
6.2.2.2. Brightness of no less than 96 ISO brightness;	
6.3. <b>SOFT COPY FORMAT</b>	
6.3.1. The Packaging Labels must be provided as PDF files.	
6.3.2. The Packaging Labels PDFs containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape.	

- 6.3.3. The Packaging Codes must be provided as an MS Excel Spreadsheet file.
- 6.3.4. **Soft Copy format submission size below 7MB** – The Packaging, Labels and Codes may be submitted via email as follows:
  - 6.3.4.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.
  - 6.3.4.2. Subject Field: HRS-ROV-ILS-214 – Packaging, Labels and Codes – [Rev #] – [Date of Issue]
- 6.3.5. **Soft Copy format submission size at or above 7MB** – The Packaging, Labels and Codes files must be submitted on CD or DVD media and be labelled as follows:
  - 6.3.5.1. High Risk Search Remotely Operated Vehicle System
  - 6.3.5.2. Packaging, Labels and Codes
  - 6.3.5.3. HRS-ROV-ILS-214;
  - 6.3.5.4. The Revision number, and
  - 6.3.5.5. The date of issue.

## A5.20 DID – Repair and Overhaul Plan

DATA ITEM DESCRIPTION	
1. TITLE <b>Repair and Overhaul Plan</b>	2. IDENTIFICATION NUMBER DID HRS-ROV-ILS-215
3. DESCRIPTION The Repair and Overhaul Plan (R&O Plan) provides R&O planning information for the equipment once it's in-service and is sent back for repairs.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE <b>SOW: Para. 4.10.1 (pg. 16)</b> <b>CDRL: App. A4.20 (pg. 55)</b>
6. PREPARATION INSTRUCTIONS <ul style="list-style-type: none"> <li>6.1. <b>CONTENT</b> <ul style="list-style-type: none"> <li>6.1.1. The R&amp;O Plan must the following information:               <ul style="list-style-type: none"> <li>6.1.1.1. Item Number (unique sequence no. for each list);</li> <li>6.1.1.2. Item Name;</li> <li>6.1.1.3. MRN;</li> <li>6.1.1.4. NCAGE;</li> <li>6.1.1.5. NATO Stock Number (if available);</li> <li>6.1.1.6. Wear out Life;</li> <li>6.1.1.7. Designated Rework Point.</li> </ul> </li> <li>6.1.2. For each item requiring Repair and Overhaul, provide a Technical Data List identifying the technical data needed by the Repair and Overhaul facility. These data may consist of, for example, overhaul task descriptions, repair schemes, test procedures and modifications to be incorporated.</li> </ul> </li> <li>6.2. <b>GENERAL FORMAT</b> <ul style="list-style-type: none"> <li>6.2.1. The R&amp;O Plan must be prepared as an MS Excel spreadsheet.</li> </ul> </li> <li>6.3. <b>HARD COPY FORMAT</b> <ul style="list-style-type: none"> <li>6.3.1. The R&amp;O Plan must be printed on paper with these characteristics:               <ul style="list-style-type: none"> <li>6.3.1.1. Weight of no less than 90 gsm;</li> <li>6.3.1.2. Brightness of no less than 96 ISO brightness;</li> </ul> </li> </ul> </li> <li>6.4. <b>SOFT COPY FORMAT</b> <ul style="list-style-type: none"> <li>6.4.1. The R&amp;O Plan must be provided as an MS Excel Spreadsheet file.</li> <li>6.4.2. <b>Soft Copy format submission size below 7MB</b> – The R&amp;O Plan may be submitted via email as follows:               <ul style="list-style-type: none"> <li>6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.</li> <li>6.4.2.2. Subject Field: HRS-ROV-ILS-215 – R&amp;O Plan – [Rev #] – [Date of Issue]</li> </ul> </li> <li>6.4.3. <b>Soft Copy format submission size at or above 7MB</b> – The R&amp;O Plan file must be submitted on CD or DVD media and be labelled as follows:               <ul style="list-style-type: none"> <li>6.4.3.1. High Risk Search Remotely Operated Vehicle System</li> <li>6.4.3.2. R&amp;O Plan</li> </ul> </li> </ul> </li> </ul>	

6.4.3.3. HRS-ROV-ILS-215;  
6.4.3.4. The Revision number, and  
6.4.3.5. The date of issue.

Solicitation No. - N° de l'invitation  
W8476-185848  
Client Ref. No. - N de rf. du client  
W8476-185848

Amd. No. - N de la modif.  
File No. - N du dossier  
030qfW8476-185848

Buyer ID - Id de l'acheteur  
030qf  
CCC No./N CCC - FMS No./N VME

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## ANNEXE B

Liste des éléments relatifs à l'achèvement du contrat

### Véhicules Téléguidés (VTG)

Ce document comprend cette page plus deux (2) pages supplémentaires

**ANNEXE B – Liste des éléments relatifs à l’achèvement du contrat**

Tableau des produits livrables

Item	Description de l’item	Qté	Option
1	système du petit VTG (Paragr. A1.0)	79	De 1 à 31
2	système du grand VTG (Paragr. A2.0)	9	1
3	Rapport sur l’état du contrat (paragr. 3.2.1)	LOT	
4A	Réunion de lancement (paragr. 3.3.2)	1	
4B	Ordre du jour de la réunion (paragr. 3.3.5.1.1)	LOT	
4C	Procès-verbal de réunion (paragr. 3.3.5.1.2)	LOT	
5A	Réunion du SLI (paragr. 3.3.3)	1	
5B	Ordre du jour de la réunion (paragr. 3.3.5.1.1)	LOT	
5C	Procès-verbal de réunion (paragr. 3.3.5.1.2)	LOT	
6	Dessin d’assemblage de niveau supérieur (paragr. 3.3.2.2)	LOT	
7	Demande d’octroi de fréquences (paragr. 4.3.1)	LOT	
8	Manuel de l’opérateur (paragr. 4.4.1.1.1)	LOT	LOT
9	Aide-Mémoire (paragr. 4.4.1.2.1)	LOT	LOT
10	Manuel de réparation (paragr. 4.4.1.3.1)	LOT	LOT
11	Manuel illustré des pièces (paragr. 4.4.1.4.1)	LOT	
12	Trousse de formation des opérateurs (paragr. 4.4.1.5.1)	LOT	
13	Trousse de formation des techniciens (paragr. 4.4.1.6.1)	LOT	
14A	État détaillé d’approvisionnement de pièces (paragr. 4.5.1.1.1)	LOT	
14B	Option d’acquérir des pièces de rechange après approbation du MDN		À déterminer
15	Documents techniques supplémentaire concernant l’approvisionnement (paragr. 4.5.1.2.1)	LOT	
16A	Outils et équipement d’essai spécialisés (paragr. 4.5.1.3.1)	LOT	
16B	Option d’acquérir les outils et l’équipement d’essai spécialisés après approbation du MDN		À déterminer
17A	Réunion d’approvisionnement initial (paragr. 4.6.1)	1	
17B	Ordre du jour de la réunion (paragr. 3.3.5.1.1)	LOT	
17C	Procès-verbal de réunion (paragr. 3.3.5.1.2)	LOT	
18	Plaques d’identification (paragr. 4.7.1)	LOT	LOT
19	Liste des marchandises contrôlées et non-contrôlées (paragr. 4.8.1)	LOT	
20	Emballage, étiquettes et codes (paragr. 4.9.3)	LOT	
21	Plan de réparation et de révision (paragr. 4.10.1)	LOT	
22	Séance de formation pour les opérateurs – 2 jours (paragr. 4.11.2)	Lieu de formation :	
		BFC Gagetown	1
23		Lieu de formation :	
		BFC Gagetown	1

**ANNEXE B**  
**AU W8476-185848**  
**RÉVISÉ LE 26 MARS 2018**

Item	Description de l'item	Qté	Option	
	Séance de formation pour les opérateurs – 1 jour (paragr. 4.11.2)	BFC Valcartier	1	
		BFC Petawawa	1	
		BFC Edmonton	1	
24	Séance de formation pour les techniciens – 2 jours (paragr. 4.11.2)	Lieu de formation :		
		BFC Gagetown	1	
25	Séance de formation pour les techniciens – 1 jour (paragr. 4.11.2)	Lieu de formation :		
		BFC Gagetown	1	
		BFC Valcartier	1	
		BFC Petawawa	1	
26	DTS potentielle	BFC Edmonton	1	
			-	À déterminer

Nota : Un « LOT » équivaut à la quantité nécessaire pour satisfaire aux exigences de la LEDC, comprenant les révisions, jusqu'à son approbation par le MDN.

Solicitation No. - N° de l'invitation  
W8476-185848  
Client Ref. No. - N de rf. du client  
W8476-185848

Amd. No. - N de la modif.  
File No. - N du dossier  
030qfW8476-185848

Buyer ID - Id de l'acheteur  
030qf  
CCC No./N CCC - FMS No./N VME

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## ANNEX C

### TECHNICAL PROPOSAL REQUIREMENT AND BID EVALUATION

#### Remote Operated Vehicle (ROV)

This documents consists of this page plus thirty-two (32) additional pages

TECHNICAL PROPOSAL REQUIREMENTS  
AND BID EVALUATION  
FOR THE  
HIGH RISK SEARCH REMOTELY OPERATED VEHICLE SYSTEM



NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document shall continue to apply.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

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## 1.0 General

### 1.1 Introduction

- 1.1.1 This document is split in two parts and defines the criteria that will be used to determine the winning bid for the procurement of the High Risk Search Remotely Operated Vehicle System (HRS-ROV).
  - 1.1.1.1 The first part, Technical Proposal Requirements, defines the information and samples required from the Bidders for their proposal to be evaluated.
  - 1.1.1.2 The second part, Bid Evaluation, defines the evaluation process Canada will undertake, and describes the Evaluation Trial tests and items that will be evaluated.

## 2.0 Technical Proposal Requirements

### 2.1 Responding to Evaluation Criteria

- 2.1.1 Bidders must provide the information required for each listed requirement in accordance with the method identified in the “Compliance Documentation Required” column in the tables at 3.4 & 3.5.
  - 2.1.1.1 The following compliance methods define the information required:
    - 2.1.1.1.1 **Test Report (TR)** - Where “TR” is identified, the Bidder must provide a completed and detailed Test Report, including test procedures, data and results, for tests conducted on the equipment offered, to confirm it fully complies with the requirement.
    - 2.1.1.1.2 **Compliance Statement (CS)** - Where “CS” is identified, the Bidder must describe in detail how the equipment offered fully complies with the requirement. Supporting documentation is requested but not essential.
    - 2.1.1.1.3 **Draft (DR)** - Where “DR” is identified, the Bidder must provide a draft of the requested document to describe in detail how the equipment offered fully complies with the requirement.
  - 2.1.2 For each listed requirement, the Bidder must provide a response in the “Bidder’s Response/References” column in the tables at 3.4 & 3.5 to clearly explain how the requirement is met, either by including the specific reference to indicate where in their proposal the information is found or including the complete response directly in that column.

### 2.2 Evaluation Trial Bidder Samples and FSRs

- 2.2.1 Successful Bidders advancing to Phase 2 Evaluation Trial must deliver (and pickup after the trial) two (2) complete samples of each of the proposed Small ROV System and Large ROV System (one of the samples is a backup in case of unexpected failure), all at no cost to Canada.

- 2.2.1.1 As part of the Small ROV System and Large ROV System samples, the Bidders must include technical manual(s) (in English), but these need not be exactly as specified in the SOW.
- 2.2.2 The Bidders must deliver the samples no later than 45 calendar days after being informed of their successful results of Phase 1 – Evaluation of Key Mandatory Requirements, to the following address:
- Attn: Maurina Kimmen**  
Prairie Agricultural Machinery Institute (PAMI)  
Highway #5 West, 2215 8th Avenue  
Humboldt, Saskatchewan, S0K 2A0, CANADA  
Tel: 306-682-5033(x256) Fax: 306-682-5080
- 2.2.2.1 The Bidders must supply samples that are pristine, although not necessarily new, and must not be pre-conditioned making it not representative of the systems that would be provided as part of the contract.
- 2.2.2.2 Bidders that do not provide two (2) complete samples, in the time allowed, will be deemed non-compliant and any partial sample(s) returned.
- 2.2.2.3 DND, through Public Service Procurement Canada (PSPC), will inform the Bidder(s) when samples are ready for pickup, and will pack the samples in the same manner as when they arrived.
- 2.2.3 The Bidders must provide no more than two (2) Field Service Representatives (FSR) for a two (2) day preparation, training, and testing period at PAMI.
- 2.2.4 The Bidder instruction and training will occur at the above address, where the samples were sent, on dates to be confirmed by the PSPC Contracting Authority (CA).

### **3.0 Bid Evaluation**

#### **3.1 Bid Selection Methodology**

- 3.1.1 It is Canada's desire to achieve an optimal capability at lowest possible cost. Therefore, a "Lowest Cost Compliant" approach will be employed for this acquisition process, and selection of the winning proposal will be based on the proposed lowest cost provided that meets all mandatory requirements.
- 3.1.2 PSPC CA will screen the bids for completeness, misplaced financial information and compliance with the general terms and conditions. The technical section of the compliant bids will then be provided to the Bid Evaluation Team for evaluation of technical compliance.
- 3.1.3 All valid bids will be evaluated against key mandatory requirements, detailed in this Annex C, based on the Bidder's supplied information and the evaluation trial results in order to determine technical compliance.

#### **3.2 Technical Evaluation of Compliance**

- 3.2.1 Phase 1: Evaluation of Key Mandatory Requirements
  - 3.2.1.1 The evaluation team will use the Bidder's submitted proposal to determine compliance against key mandatory requirements. See the tables at 3.4 & 3.5 for more details.
- 3.2.2 Phase 2: Evaluation Trial
  - 3.2.2.1 Testing and trials will be conducted using the complete samples supplied by Bidders having successfully moved onto Phase 2 Evaluation Trial.
  - 3.2.2.2 Submitted samples will be utilized in accordance with the Original Equipment Manufacturers' recommended operating procedures and training provided by Bidders.

#### **3.3 Evaluation Trial**

- 3.3.1 The aim of the Evaluation Trial is to assess the performance of the submitted samples against the requirements identified in the tables at 3.6 & 3.7.
- 3.3.2 Canada will conduct the Evaluation Trial within the PAMI area, or at some other appropriate venue in Canada, under the supervision of DND.
- 3.3.3 Trial Personnel will include:
  - 3.3.3.1 DND HRS-ROV Project Trials Officer(s).
  - 3.3.3.2 DND/PAMI Subject Matter Experts.
  - 3.3.3.3 Additional assistance to set up and monitor the trials will be provided by the DND TA as required.

3.3.4 Subject Matter Experts

3.3.4.1 Subjects will be drawn from experienced operators of similar equipment or members of the DND/PAMI scientific community.

3.3.5 Preparation, Training & Testing Period

3.3.5.1 Up to three (3) Subject Matter Experts will be provided.

3.3.5.2 The Bidders will each be allowed 11 hours (plus one hour for lunch) over a two (2) day period, as follows:

3.3.5.2.1 Day 1 – up to three (3) hours – Properly break-out the equipment from the packaging and prepare it for the next day.

3.3.5.2.2 Day 2 – up to eight (8) hours – Provide instruction in the correct use of the samples and perform equipment operation for certain tests in the trial.

3.3.5.3 The following sample trial schedule shows the schedule in a week:

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00am		1 <sup>st</sup> Bidder – Training & Testing	2 <sup>nd</sup> Bidder – Training & Testing	3 <sup>rd</sup> Bidder – Training & Testing	4 <sup>th</sup> Bidder – Training & Testing
12:00pm	Lunch	Lunch	Lunch	Lunch	Lunch
1:00pm					
2:00pm	1 <sup>st</sup> Bidder - Meeting & Prep for next day.	1 <sup>st</sup> Bidder Training & Testing 2 <sup>nd</sup> Bidder - Meeting & Prep for next day.	2 <sup>nd</sup> Bidder Training & Testing 3 <sup>rd</sup> Bidder - Meeting & Prep for next day.	3 <sup>rd</sup> Bidder Training & Testing 4 <sup>th</sup> Bidder - Meeting & Prep for next day.	4 <sup>th</sup> Bidder Training & Testing
5:00pm					

**NOTE:** Overlapping areas on the schedule will not result in Bidders viewing each other's testing or equipment, as preparation area will be in a different area of the facility from the Training and Testing area.

3.3.6 Evaluation Trial Testing

3.3.6.1 See the tables at 3.6 & 3.7 for more details.

3.3.6.2 The following trial sequence shows the order the testing we expect the trial to follow. The order, outside of the portion done with the Bidder personnel, may change if required.

	<b>Small ROV</b>	<b>Large ROV</b>
<b>Occurring during Bidder training and testing period</b>	T3 – Mobility (Operated by Bidder personnel)	T3 – Mobility (Operated by Bidder personnel)
	T6 – Drop-Charge Release Mechanism (Operated by Bidder personnel)	
	T1 – Weight	T1 – Weight
	T2 – Velocity (Operated by Evaluator personnel)	T2 – Velocity (Operated by Evaluator personnel)
	T4 – Line of Sight (Operated by Evaluator personnel)	T6 – Manipulator Arm and Gripper (Operated by Evaluator personnel)
	T5 – Battery (Operated by Evaluator personnel)	T4 – Line of Sight (Operated by Evaluator personnel)
	T7 – Atmospheric (Operated by Evaluator personnel)	T5 – Battery (Operated by Evaluator personnel)
	T8 – Durability (Operated by Evaluator personnel)	T7 – Mobile Comm Relay & Control (Operated by Evaluator personnel)
		T8 – Atmospheric (Operated by Evaluator personnel)

3.3.7 Assessment

3.3.7.1 Canada will assess each bidder's system, and results of all tests will be compiled by Technical Staff: DND Project Trials Officer(s) and Subject Matter Experts.

3.3.7.2 Results of compliance and non-compliance will be provided through PSPC CA.

**3.4 Evaluation of Key Mandatory Requirements – Small ROV System**

Serial	Requirement Reference(s)	Requirement Description	Compliance Documentation Required DR - Draft CS - Compliance Statement TR - Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
					"C"	"NC"
M1	ANNEX A – Para A1.1.1.1	The Small Remotely Operated Vehicle System (Small ROV System) must be based on proven, fielded equipment, which is in-service with a North Atlantic Treaty Organization (NATO) or American, British, Canadian, Australian (ABCA) military partner or police agency of those countries.	CS			
M2	ANNEX A – Para A1.1.3	The Small ROV System must operate within either: a. The commercial 2.4GHz bandwidth, or b. The 4000-4900 MHz bandwidth (the 4800-4900MHz bandwidth section is currently the most open, so would be the preference) which is designated for Government of Canada use.	CS			
M3	ANNEX A – Para A1.2.1.1.1	The Small ROV must act as a mobile RF communication relay, in a mesh-type network, to assist with communication connection with other Small ROVs and Large ROVs in a non-line-of-sight, subterranean, or reinforced concrete buildings, or to extend the range in line-of-sight applications.	CS			
M4	ANNEX A – Para A1.2.1.2.2	The Small ROV, not including the Drop Charge Release Mechanism, must have no less than an IP67 rating, or equivalent, IAW NEMA IEC 60529.	TR			
M5	ANNEX A – Para A1.2.1.6.1	The Small ROV must include a tactical rail meeting STANAG 4694 to provide an anchor point for payloads.	CS			

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Serial	Requirement Reference(s)	Requirement Description	Compliance Documentation Required DR - Draft CS - Compliance Statement TR - Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
					"C"	"NC"
M6	ANNEX A – Para A1.2.1.7	<p><b>Field of View</b></p> <p>a. The Small ROV must have an <b>overall</b> front field of view with:            No less than a 60 degree horizontal field of view.            No less than a 120 degree vertical field of view.</p> <p>If required, the vertical field of view range can be met by either the camera tilting, the Small ROV body tilting, or through a software-based tilt.</p> <p>b. The Small ROV must have an <b>overall</b> rear field of view with:            No less than a 60 degree horizontal field of view.            No less than a 60 degree vertical field of view.</p> <p>If required, the vertical field of view range can be met by either the camera tilting, the Small ROV body tilting, or through a software-based tilt.</p>	CS			
M7	ANNEX A – Para A1.4.1	<p><b>Climatic Conditions</b></p> <p>The Small ROV and CCS components must operate in temperatures ranging from –19°C to +39°C.</p> <p>The Small ROV and CCS components must operate in relative humidity ranging from 5% to 100%.</p>	CS			

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Serial	Requirement Reference(s)	Requirement Description	Compliance Documentation Required DR - Draft CS - Compliance Statement TR - Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
					"C"	"NC"
M8	ANNEX A – Para 4.3 & Annex D – Application for Spectrum Supportability	<p><b>Application for Spectrum Supportability</b></p> <p>For HRS-ROV Large ROV System and Small ROV System RF component (Transmitting and Receiving), the Contractor must provide the <b>Application for Spectrum Supportability</b> IAW CDRL HRS-ROV-ILS-202 at Appendix A4.7 and its associated DID HRS-ROV-ILS-202 at Appendix A5.7 to this ANNEX A and ANNEX D – Application for Spectrum Supportability.</p> <p>Information within the Application for Spectrum Supportability will be used to verify compliance of ANNEX A SOW para. 4.3.1.1.</p>	DR			

### 3.5 Evaluation of Key Mandatory Requirements – Large ROV System

Serial	Requirement Reference(s)	Requirement Description	Compliance Documentation Required DR - Draft CS - Compliance Statement TR - Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
					"C"	"NC"
M1	ANNEX A – Para A2.1.1.1	The Large Remotely Operated Vehicle System (Large ROV System) must be based on proven, fielded equipment, which is in-service with a North Atlantic Treaty Organization (NATO) or American, British, Canadian, Australian (ABCA) military partner or police agency of those countries.	CS			
M2	ANNEX A – Para A2.1.3	The Large ROV system must operate within either: a. The commercial 2.4GHz bandwidth, or b. The 400-4900 MHz bandwidth (the 4800-4900MHz bandwidth section is currently the most open, so would be the preference) which is designated for Government of Canada use.	CS			
M3	ANNEX A – Para A2.2.1.1.1	The Large ROV must act as a mobile RF communication relay, in a mesh-type network, to assist with communication connection with other Large ROVs and Small ROVs in a non-line-of-sight, subterranean, or reinforced concrete buildings, or to extend the range in line-of-sight applications.	CS			
M4	ANNEX A – Para A2.2.1.2	<b>Fibre Optic Cable and Mount</b> The Large ROV must carry and feed-out fibre optic cable of no less than two hundred (200m) meters +/- 2m.	CS			

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Serial	Requirement Reference(s)	Requirement Description	Compliance Documentation Required DR - Draft CS - Compliance Statement TR - Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
					"C"	"NC"
M5	ANNEX A – Para A2.2.1.3.1	The Large ROV must have no less than an IP65 rating, or equivalent, IAW NEMA IEC 60529.	TR			
M6	ANNEX A – Para A2.2.1.7.1	The Large ROV must include a tactical rail meeting STANAG 4694 to provide an anchor point for payloads.	CS			
M7	ANNEX A – Para A2.2.1.8	<p><b>Field of View</b></p> <p>The Large ROV must have an overall field of view, both front and rear, with:</p> <ul style="list-style-type: none"> <li>a. Low-light and near-infrared illuminators</li> <li>b. No less than a 60 degree horizontal field of view,</li> <li>and</li> <li>c. No less than a 60 degree vertical field of view.</li> </ul> <p>If required, the vertical field of view range can be met by either the camera tilting, the Large ROV body tilting, or through a software-based tilt.</p>	CS			
M8	ANNEX A – Para A2.2.2.3.1	The CCS must have no less than an IP64 rating, or equivalent, IAW NEMA IEC 60529.	TR			
M9	ANNEX A – Para A2.2.5	<p><b>Manipulator Arm and Gripper</b></p> <p>The Manipulator Arm must have no less than four (4) degrees of freedom for precise maneuvering of the arm and gripper.</p> <ul style="list-style-type: none"> <li>a. The gripper opening and closing must not count as one of the degrees of freedom required.</li> </ul>	CS			

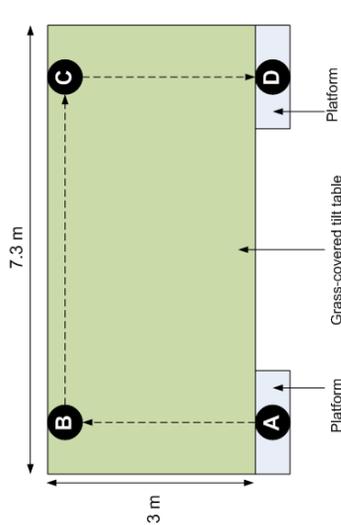
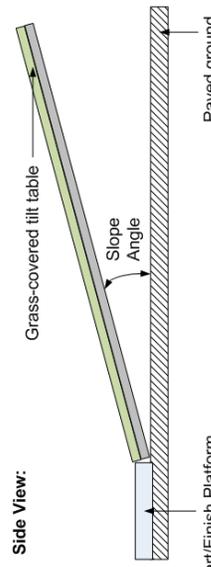
ANNEX C  
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Serial	Requirement Reference(s)	Requirement Description	Compliance Documentation Required DR - Draft CS - Compliance Statement TR - Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
					"C"	"NC"
M10	ANNEX A – Para A2.4.1	<p><b>Climatic Conditions</b></p> <p>The Large ROV and CCS components must operate in temperatures ranging from –19°C to +39°C.</p> <p>The Large ROV and CCS components must operate in relative humidity ranging from 5% to 100%.</p>	CS			

3.6 Evaluation Trial – Small ROV System

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)	
				“C”	“NC”
T1	ANNEX A – Para A1.3.2.1	<b>Weight</b> The Small ROV and CCS, with one (1) set of batteries each, must not exceed 10.00kg in combined weight.	<p><b>Equipment Requirements:</b> One (1) Small ROV and CCS, with one set of batteries each; calibrated scale.</p> <p><b>Small ROV Operator:</b> Not applicable.</p> <p><b>Procedure:</b> The evaluator will use a calibrated scale to measure the following weights: 1. Small ROV with one (1) battery set. 2. CCS with one (1) battery set.</p> <p><b>Compliance achieved if</b> Small ROV and CCS weighs less than or equal to 10.00 kg.</p>		
T2	ANNEX A – Para A1.2.1.3	<b>Velocity</b> The Small ROV must maintain an average velocity of no less than five (5) km/h on a level pavement or concrete surface.	<p><b>Equipment Requirements:</b> One (1) Small ROV and CCS, with one set of batteries each, concrete level surface, calibrated tape measure and stopwatch.</p> <p><b>Small ROV Operator:</b> Evaluator personnel will set up and operate the Small ROV.</p> <p><b>Procedure:</b> 1. The Small ROV will be driven at full speed to cover a minimum distance of 15 m. The evaluator will measure the time to cover the distance using a stopwatch. The speed will then be calculated using the distance and measured time. 2. There will be sufficient track space for the Small ROV to reach the minimum speed by the time it passes the start line. The Small ROV will maintain this speed until the end of the track. 3. The Small ROV will perform the test three (3) times per direction (forward and reverse), and the speed will be averaged over three (3) trials.</p> <p><b>Compliance achieved if</b> the calculated velocity of the Small ROV reaches 5 km/h in both directions.</p>		
T3A	ANNEX A – Para A1.2.1.4.1	<b>Mobility</b> The Small ROV must climb and descend from obstacles (such as a road curb) of no less than a 10 cm rise while carrying the minimum payload weight, see ANNEX A para. A1.2.1.6.2 (page 20).	<p><b>Equipment Requirements:</b> One (1) Small ROV carrying the payload weight and CCS, with one set of batteries each, and a concrete block.</p> <p><b>Small ROV Operator:</b> Bidder personnel.</p> <p><b>Concept of Test - Road Curb:</b> The Small ROV will be required to climb and descend a concrete block (1.2 m long x 1.2 m wide and 100 mm high). A payload of 2.0 kg will be attached to the tactical rail. The 2.0 kg payload will be a cylinder approximately 75 mm diameter x 230 mm long mounted to a mating tactical rail. The Small ROV will have three attempts to complete the climb and three attempts to complete the descent.</p> <p><b>Procedure:</b> 1. The Small ROV will be operated to climb the concrete block. Once the Small ROV completes the climb or uses all three attempts, the Small ROV will descend concrete block. 2. During a climb, if the Small ROV cannot reach the top of the concrete block or the Small ROV is tipping over, the attempt will be considered unsuccessful. Tipping over on the descent will also be considered unsuccessful.</p> <p><b>Compliance achieved if</b> the Small ROV ascends and descends the 100 mm high concrete block with the minimum payload.</p>		

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
T3B	ANNEX A – Para A1.2.1.4.2 & A1.2.1.5	<p><b>Mobility and Automatic Brake</b></p> <p>The Small ROV must traverse a dry grass-covered slope of no less than 15 degrees (26.8% grade) while carrying the minimum payload weight, see ANNEX A para. A1.2.1.6.2 (page 20).</p> <p>The Small ROV must hold position when not commanded to move, including when the Small ROV is stopped on uneven ground or slopes and while carrying the minimum payload weight, see ANNEX A para. A1.2.1.6.2 (page 20).</p>	<p><b>Equipment Requirements:</b> One (1) Small ROV carrying the payload weight and CCS, with one set of batteries each, turf surface, tilt table, and a safety tether.</p> <p><b>Small ROV Operator:</b> Bidder personnel.</p> <p><b>Concept of Test - Grass (15° Traverse):</b> The Small ROV will have to climb, traverse, and descend a 15° slope on an artificial turf surface that is dry to the touch. Furthermore, the Small ROV will be allowed three attempts to complete the entire test. A payload of 2.0 kg will be attached to the tactical rail. The 2.0 kg payload will be a cylinder approximately 75 mm diameter x 230 mm long mounted to a mating tactical rail. The evaluator will provide a safety tether to minimize damage to the Small ROV.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. The evaluator will provide a safety tether for the test. Dry, artificial turf will be placed on a tilt table.</li> <li>2. The Small ROV will climb, traverse, and descend a turf-covered surface with a slope angle of 15°.</li> <li>3. The Small ROV will navigate path from A to B to C to D in forward and reverse motions respectively (see Figure 1 below) according to Table 1 (below). The Small ROV will stop and hold for five (5) seconds at each location noted in Table 1 (below).</li> <li>4. The Small ROV will be given three (3) attempts to complete the test.</li> </ol> <p><b>Compliance achieved if the Small ROV completes the tasks identified in Table 1 and Figure 1 (below) with the 2.0 kg payload.</b></p>		
T3C	ANNEX A – Para A1.2.1.4.3	<p><b>Mobility</b></p> <p>The Small ROV must climb and descend dry grass-covered slopes of no less than 30 degrees (57.7% grade) while carrying the minimum payload weight, see ANNEX A para. A1.2.1.6.2 (page 20).</p> <p>The Small ROV must hold position when not commanded to move, including when the Small ROV is stopped on uneven ground or slopes and while carrying the minimum payload weight, see ANNEX A para. A1.2.1.6.2 (page 20).</p>	<p><b>Equipment Requirements:</b> One (1) Small ROV carrying the payload weight and CCS, with one set of batteries each, turf surface, tilt table, and a safety tether.</p> <p><b>Small ROV Operator:</b> Bidder personnel.</p> <p><b>Concept of Test - Grass (30° Ascend and Descend):</b> The Small ROV will have to climb and descend a 30° slope on an artificial turf surface that is dry to the touch. Furthermore, the Small ROV will be allowed three attempts to complete the entire test. If the Small ROV completes the test on the first attempt, no further attempts will be performed. The evaluator will provide a safety tether to minimize damage to the Small ROV. A payload of 2.0 kg will be attached to the tactical rail. The 2.0 kg payload will be a cylinder approximately 75 mm diameter x 230 mm long mounted to a mating tactical rail.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. The evaluator will provide a safety tether for the test. Dry artificial turf will be placed on a tilt table.</li> <li>2. The Small ROV will climb and descend a turf-covered surface with a slope angle of 30°.</li> <li>3. The Small ROV will navigate path from A to B and B to A only in forward and reverse motions respectively (Figure 1 below). The Small ROV will stop and hold for five seconds at locations A and B. The evaluator will observe if the Small ROV system has an early rollover detection alarm.</li> <li>4. The Small ROV will be given three (3) attempts to complete the test.</li> </ol> <p><b>Compliance achieved if the Small ROV completes path A to B only in forward and reverse directions as shown in Table 1 and Figure 1 (below) with the 2.0 kg payload.</b></p>		

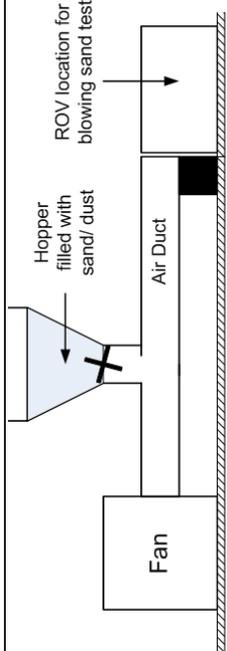
Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only) "C" "NC"																		
		<p>Figure 1. Test apparatus for grass-covered slope test.</p> <p><b>Top View:</b></p>  <p><b>Side View:</b></p> 	<p><b>Table 1. Small ROV navigation paths on grass-covered slopes.</b></p> <table border="1" data-bbox="1120 1449 1323 1711"> <thead> <tr> <th>Path</th> <th>Motion Direction</th> <th>Task</th> </tr> </thead> <tbody> <tr> <td>A to B</td> <td>Forward</td> <td>Small ROV to climb the slope.</td> </tr> <tr> <td>At B</td> <td>Forward</td> <td>Small ROV stops and holds its position stationary for five seconds before making a turn.</td> </tr> <tr> <td>B to C</td> <td>Forward</td> <td>Small ROV traverses the turf surface. During the traverse, the Small ROV must recover from a slide.</td> </tr> <tr> <td>At C</td> <td>Forward</td> <td>Small ROV makes a turn, stops, and holds a stationary position for five seconds.</td> </tr> <tr> <td>C to D</td> <td>Forward</td> <td>Small ROV to descend the slope.</td> </tr> </tbody> </table>	Path	Motion Direction	Task	A to B	Forward	Small ROV to climb the slope.	At B	Forward	Small ROV stops and holds its position stationary for five seconds before making a turn.	B to C	Forward	Small ROV traverses the turf surface. During the traverse, the Small ROV must recover from a slide.	At C	Forward	Small ROV makes a turn, stops, and holds a stationary position for five seconds.	C to D	Forward	Small ROV to descend the slope.	
Path	Motion Direction	Task																				
A to B	Forward	Small ROV to climb the slope.																				
At B	Forward	Small ROV stops and holds its position stationary for five seconds before making a turn.																				
B to C	Forward	Small ROV traverses the turf surface. During the traverse, the Small ROV must recover from a slide.																				
At C	Forward	Small ROV makes a turn, stops, and holds a stationary position for five seconds.																				
C to D	Forward	Small ROV to descend the slope.																				

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)																
				"C"	"NC"															
			<table border="1"> <tr> <td>A to B</td> <td>Reverse</td> <td>Small ROV to climb the slope.</td> </tr> <tr> <td>At B</td> <td>Reverse</td> <td>Small ROV stops and holds a stationary position for five seconds before making a turn.</td> </tr> <tr> <td>B to C</td> <td>Reverse</td> <td>Small ROV traverses the turf surface. During the traverse, the Small ROV must recover from a slide.</td> </tr> <tr> <td>At C</td> <td>Reverse</td> <td>Small ROV makes a turn, stops, and holds a stationary position for five seconds.</td> </tr> <tr> <td>C to D</td> <td>Reverse</td> <td>Small ROV descends the slope.</td> </tr> </table>	A to B	Reverse	Small ROV to climb the slope.	At B	Reverse	Small ROV stops and holds a stationary position for five seconds before making a turn.	B to C	Reverse	Small ROV traverses the turf surface. During the traverse, the Small ROV must recover from a slide.	At C	Reverse	Small ROV makes a turn, stops, and holds a stationary position for five seconds.	C to D	Reverse	Small ROV descends the slope.		
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C to D	Reverse	Small ROV descends the slope.																		
T4	ANNEX A – Para A1.2.2.1	<b>Line-of-Sight – Control and Communication</b> The CCS must maintain communication with and control of the Small ROV at a distance of no less than 200 meters on open terrain.	<p><b>Equipment Requirements:</b> One (1) Small ROV and CCS with one set of batteries each; calibrated tape measure.</p> <p><b>Small ROV Operator:</b> The evaluator will set up the Small ROV and CCS and operate them.</p> <p><b>Concept of Test:</b> This test focuses on the Small ROV's operating range via RF control and communication between the Small ROV and CCS via RF means (for example two-way camera and navigational control). The Small ROV will navigate a 200 m path with an RF line-of-sight.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>At the test site, evaluator personnel will unload the Small ROV system and set up the system for operation via RF control.</li> <li>The Small ROV will be placed near the CCS. The Small ROV operator will activate a camera before the Small ROV leaves the CCS. During the test, the evaluator will visually check the CCS monitor to ensure the Small ROV transmits sensor and camera data back to the control station.</li> <li>From the CCS, the Small ROV operator will navigate the Small ROV on a straight path to checkpoints (100 m, 150 m, 175 m) and finish line (200 m from the CCS). At each checkpoint, the Small ROV will stop and the evaluator will check that the operator has retained navigational control of the Small ROV. The operator must drive the Small ROV via its camera. If the operator loses live video feed (small fluctuations are allowable), or navigation control, the particular attempt will end. When the Small ROV arrives at the finish line or stops operating due to a lost RF signal, the evaluator will record the distance travelled and bring the Small ROV back to the control station.</li> <li>The Small ROV will have two attempts to complete this test.</li> </ol> <p><b>Compliance achieved if</b> the Small ROV operator maintains navigational control throughout the distance to the 200 m, and can view the terrain via the camera on the Small ROV. If the operator loses live video camera feed (small fluctuations are acceptable) or navigation control, then the Small ROV will be considered non-compliant for that particular attempt.</p>																	

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)
T5	ANNEX A – Para A1.2.3.1	<p><b>Battery Operation</b></p> <p>Each Battery Set of the CCS and Small ROV must provide no less than one (1) hour of operation at an approximate ideal temperature of 20°C (+/- 3 °C). Operation is defined as:</p> <ol style="list-style-type: none"> <li>Power-on and initialization sequence of the Small ROV and CCS.</li> <li>Movement of the Small ROV 'down range' for 100m, with periodic movements throughout the majority of the one (1) hour, and then returning back for 100m before the one (1) hour has expired, and</li> <li>Continuous video transmission (small fluctuations are acceptable) between the Small ROV and CCS throughout the one (1) hour.</li> </ol>	<p><b>Equipment Requirements:</b> One (1) Small ROV and CCS with one set of batteries each, calibrated tape measure, and calibrated stop watch.</p> <p><b>Small ROV Operator:</b> The evaluator will set up the Small ROV and CCS and operate them.</p> <p><b>Concept of Test:</b> Testing will be conducted in a similar manner to 3.6 Evaluation Trial – Small ROV System - Serial T4.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>At the test site, evaluator personnel will unload the Small ROV system and set up the system for operation via RF control.</li> <li>The Small ROV will be placed near the CCS, and once powered on, begin the stopwatch. The Small ROV operator will activate the camera before the Small ROV leaves the CCS.</li> <li>From the CCS, the Small ROV operator will navigate (over pavement or concrete, and at a maximum speed that still maintains control) the Small ROV on a straight path to the next checkpoints (25 m, 50 m, 75 m, and 100 m from the control station). At each checkpoint, the Small ROV will stop and the evaluator will check that the operator has retained navigational control of the Small ROV.</li> </ol> <p>The operator must drive the Small ROV via its camera. If the operator loses live video feed (small fluctuations are acceptable), or navigation control, the particular attempt will end. If the Small ROV stops operating due to a lost RF signal, the evaluator will record the distance travelled and bring the Small ROV back to the control station.</p> <ol style="list-style-type: none"> <li>With the Small ROV 100 m from the CCS, the Small ROV will be periodically moved (no more than 50% of the time moving and the remaining time stopped) while observing through the camera. The Small ROV will drive back to the CCS (repeating Step 3) ensuring that it has operated for no less than one hour.</li> <li>The Small ROV will have two attempts (with new or re-charged batteries) to complete this test.</li> </ol> <p><b>Compliance achieved if</b> the Small ROV can maintain communication and control over a distance of 100 m for a duration of no less than one (1) hour.</p>	<p>“C”</p> <p>“NC”</p>

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				"C"	"NC"
T6	ANNEX A – Para A1.2.5	<p><b>Drop-Charge Release Mechanism</b></p> <p>Drop-Charge Release Mechanism must carry and actuate the physical release of a drop charge (defined as two taped blocks of C4 explosive and RF Initiator), at least 1.60 kg (approx. 3.53 lb) in weight and a maximum of 6 cm width x 6 cm height x 30 cm length (approx. 2.36 x 2.36 x 11.80 inches).</p> <p>The Drop-Charge Release Mechanism must support and hold the drop charge while performing the mobility requirements of ANNEX A para. A1.2.1.4 (page 19).</p> <p>a. It is acceptable to provide a system that attaches the drop charge to a disposable plate which is itself released from the ROV.</p> <p>Drop-Charge Release Mechanism must be controllable through the CCS.</p>	<p><b>Equipment Requirements:</b> One (1) Small ROV with Drop Charge Release Mechanism and CCS, with one set of batteries each; and a simulated payload (drop charge).</p> <p><b>Small ROV Operator:</b> Bidder personnel.</p> <p><b>Concept of Test:</b> A container (60 mm x 60 mm x 300 mm) will be constructed and material inserted until a weight of 1.60 kg is achieved. The Small ROV will need to support/hold the container. The Small ROV will be placed on a bed of grass (see 3.6 Evaluation Trial – Small ROV System - Serial T3) and the release mechanism be activated on the level portion after vehicle ascends, descends, and traverses the 15° and 30° slopes.</p> <p><b>Procedure:</b> 3.6 Evaluation Trial – Small ROV System - Serial T3 will be repeated except using the simulated payload (drop charge) and the simulated payload (drop charge) will be released at the points identified here (see Figure 1 of 3.6 Evaluation Trial – Small ROV System – Serial T3):</p> <ul style="list-style-type: none"> <li>Immediately after descending the slope and reaching Position A (30° slope only).</li> <li>Immediately after reaching Position D (for 15° slope only).</li> </ul> <p><b>Compliance achieved if</b> the simulated payload (drop charge) remains attached to the Small ROV during the ascent, traverse, and descent, the Small ROV mobility is maintained, and the simulated payload (drop charge) is released on the level portion after travelling on the slope.</p>		
T7A	ANNEX A – Para A1.4.2.1	<p><b>Atmospheric Conditions</b></p> <p>The Small ROV must operate in heavy rain up to 20 mm/hr and rain driven by wind gusts up to 40 km/h over a period of no less than one (1) hour operation.</p>	<p><b>Equipment Requirements:</b> One (1) Small ROV and CCS with one set of batteries each, and test apparatus.</p> <p><b>Small ROV Operator:</b> Evaluator personnel.</p> <p><b>Concept of Test - Heavy Rain:</b> The Small ROV will be operated in a simulated rain of up to 20 mm/hr rainfall rate with wind of up to 40 km/h.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>The evaluator will set up the test apparatus to simulate rain up to 0.33 mm/min rainfall rate and up to 11.1 m/s wind.</li> <li>The Small ROV will be operated on a figure eight track for a total of 60 minutes with an operation pattern of 10-minute drive/10-minute park under the simulated rain. There will be one layer of 5 cm thick concrete slabs on the track. The Small ROV will be inspected at the 20 min and 40 min intervals during this evaluation.</li> <li>Small ROV inspection will include verification of Small ROV movements (wheels, camera tilt (if tilt is possible), drop-charge release mechanism), operation of video communication, operation of the wheel brakes, verification of the power-on and initialization sequence, and signs of damage and water accumulation in the Small ROV.</li> <li>The Small ROV will have two attempts to complete this test.</li> </ol> <p><b>Compliance achieved if</b> the Small ROV continues to operate and is fully functional throughout the entire heavy-rain test.</p>		

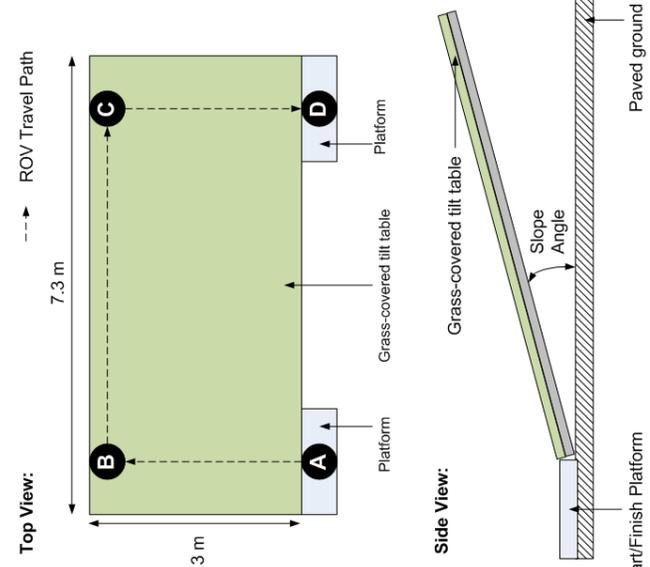
Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)										
T7B	ANNEX A – Para A1.4.2.2	<p><b>Atmospheric Conditions</b></p> <p>The Small ROV must operate in blowing sand and dust caused by wind gusts up to 40 km/h over a period of no less than one (1) hour.</p>	<p><b>Equipment Requirements:</b> One (1) Small ROV and CCS with one set of batteries each, and test apparatus.</p> <p><b>Small ROV Operator:</b> Evaluator personnel.</p> <p><b>Concept of Test - Blowing Sand</b></p> <p>The Small ROV will make 360° turns in blowing sand environment with conditions shown in <b>Table 2</b>. After sand exposure, the evaluator will visually verify that the Small ROV is functional.</p> <p><b>Table 2.</b> Test conditions for the blowing sand test.</p> <table border="1" data-bbox="532 688 727 1314"> <thead> <tr> <th>Material</th> <th>Ground Calcium Carbonate</th> </tr> </thead> <tbody> <tr> <td>Particle size (µm)</td> <td>150 - 850</td> </tr> <tr> <td>Air velocity (m/s)</td> <td>Up to ~11.1</td> </tr> <tr> <td>Ambient air temperature (°C)</td> <td>Up to 30</td> </tr> <tr> <td>Sand concentration (g/m<sup>3</sup>)</td> <td>2.2 ± 0.5</td> </tr> </tbody> </table> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>The Small ROV will be placed immediately in front of the test apparatus with the Small ROV's front chassis facing the apparatus (refer to <b>Figure 2</b> (below) for diagram of test chamber and apparatus), the hopper will be filled with sand particles and start the fan on the test apparatus.</li> <li>The Small ROV will be exposed to the air/sand stream for 10 minutes. During the exposure, the Small ROV will repeatedly perform the following manoeuvres:             <ol style="list-style-type: none"> <li>360° pivot turn in a clockwise (CW) direction.</li> <li>Tilting of the camera to the maximum angle (if camera tilts).</li> <li>360° pivot turn in a counter-clockwise (CCW) direction.</li> </ol> </li> <li>The Small ROV will be driven out of the air/sand stream.</li> <li>Operation of the Small ROV will be verified by doing the following:             <ol style="list-style-type: none"> <li>The Small ROV operator will navigate the Small ROV on a straight path (two 5 m runs) with a U-turn at the end of first run.</li> <li>The evaluator will visually verify normal operation of the Small ROV (including verification of Small ROV movements (wheels, camera tilt (if tilt is possible), drop-charge release mechanism), operation of video communication, operation of the wheel brakes).</li> </ol> </li> <li>The Small ROV will have two (2) attempts to complete this test.</li> </ol> <p><b>Compliance achieved if</b> the Small ROV continues to operate and is fully functional throughout the entire sand test.</p>	Material	Ground Calcium Carbonate	Particle size (µm)	150 - 850	Air velocity (m/s)	Up to ~11.1	Ambient air temperature (°C)	Up to 30	Sand concentration (g/m <sup>3</sup> )	2.2 ± 0.5	<p>“C”</p> <p>“NC”</p>
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Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
			 <p>Figure 2. Test Apparatus for blowing sand tests.</p>		
T8	ANNEX A – Para A1.2.1.2.1	<p><b>Durability</b></p> <p>The Small ROV must survive multiple drops from a height of no less than three (3) meters onto natural soil, and remain fully functional.</p> <ol style="list-style-type: none"> <li>This will include drops in horizontal body orientation only.</li> <li>No payloads or attachments will be attached to the Small ROV during the drops.</li> </ol>	<p><b>Equipment Requirements:</b> One (1) Small ROV with batteries, calibrated tape measure, and video camera.</p> <p><b>Small ROV Operator:</b> Evaluator personnel.</p> <p><b>Concept of Test:</b> Testing will involve dropping the Small ROV, while in a horizontal body orientation, from a height of three (3) m onto the sand that was used in T7, which will have a depth of no less than 3 inches. Three (3) consecutive drops will be performed with the Small ROV. After each drop, all the functions of the Small ROV will be exercised to ensure that they are still operational.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>The Small ROV will be balanced, and held in a horizontal body orientation, at a height of three (3) m above the ground.</li> <li>The Small ROV will be dropped, and fall still in a horizontal body orientation, impacting the ground on all wheels/tracks.</li> <li>The functions of the Small ROV will be exercised to ensure that they are still operational.</li> <li>Testing will be repeated with the Small ROV a total of three (3) times, and the ground surface will be raked flat before each drop.</li> </ol> <p><b>Compliance achieved if</b> the Small ROV is fully functional after each of the three (3) drops.</p>		

3.7 Evaluation Trial – Large ROV System

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)	
				“C”	“NC”
T1	ANNEX A – Para A2.3.2.1	<b>Weight</b> The Large ROV, Manipulator Arm and Gripper, (but not including the Fibre Optic Cable and Mount) and CCS, with one (1) set of batteries each, must not exceed 20.00 kg in combined weight.	<p><b>Equipment Requirements:</b> One (1) Large ROV and CCS with one set of batteries each, (but not including the fibre optic cable and mount) and a calibrated scale.</p> <p><b>Large ROV Operator:</b> Not applicable.</p> <p><b>Procedure:</b> Evaluator personnel will use a calibrated scale to measure the following weights: 1. Large ROV, Manipulator Arm and Gripper with one (1) battery set. 2. CCS with one (1) battery set.</p> <p><b>Compliance achieved if the Large ROV, Manipulator Arm and Gripper, and CCS, weighs less than or equal to 20.00 kg.</b></p>		
T2	ANNEX A – Para A2.2.1.4	<b>Velocity</b> The Large ROV must maintain an average velocity of no less than five (5) km/h on a level pavement or concrete surface.	<p><b>Equipment Requirements:</b> One (1) Large ROV and CCS with one set of batteries each, concrete level surface, calibrated tape measure, and a calibrated stopwatch.</p> <p><b>Large ROV Operator:</b> Evaluator personnel.</p> <p><b>Procedure:</b> 1. The Large ROV will be driven at full speed to cover a minimum distance of 15 m. The evaluator will measure the time to cover the distance using a stopwatch. The speed will then be calculated using the distance and measured time. 2. There will be sufficient track space for the Large ROV to reach the minimum speed by the time it passes the start line. The Large ROV will maintain this speed until the end of the track. 3. The Large ROV will perform the test three (3) times per direction (forward and reverse), and the speed will be averaged over three (3) trials.</p> <p><b>Compliance achieved if the calculated velocity of the Large ROV reaches 5 km/h in both directions.</b></p>		
T3A	ANNEX A – Para A2.2.1.5	<b>Mobility</b> The Large ROV must climb and descend stairs with no less than a 20cm rise while carrying the minimum payload weight, see ANNEX A para. A2.2.1.7.2 (page 26).	<p><b>Equipment Requirements:</b> One (1) Large ROV carrying the payload and CCS, with one set of batteries each, stairs, and a calibrated inclinometer or tape measure.</p> <p><b>Large ROV Operator:</b> Bidder personnel.</p> <p><b>Concept of Test – Stairs:</b> The Large ROV will be required to climb and descend stairs with a rise of 200 mm. The stairs will have a concrete surface and have an angle of 30°. The Large ROV will have three (3) attempts to complete the climb and three (3) attempts to complete the descent. A payload of 5.0 kg will be attached to the tactical rail. The 5.0 kg payload will be a cylinder approximately 75 mm diameter x 300 mm long mounted to a mating tactical rail. The evaluator will provide a safety tether to minimize damage to the Large ROV if it is unsuccessful.</p> <p><b>Procedure:</b> 1. A safety tether will be secured to the Large ROV. 2. The Large ROV will be operated to climb the 200 mm rise 346 mm run, 30° incline, and concrete surface stairs. Once the Large ROV completes the climb or uses all three (3) attempts, the Large ROV will descend the stairs, also having three (3) attempts.</p>		

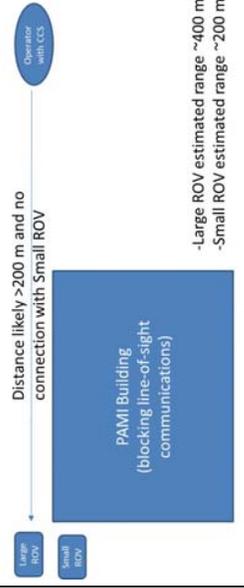
Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)
			<p>3. During a climb, if the Large ROV cannot reach the top of the stairs or the Large ROV is tipping over, thus tightening the tether, the attempt will be considered unsuccessful.</p> <p><b>Compliance achieved if the Large ROV ascends and descends the complete staircase in complete control and without loading the tether.</b></p>	<p>"C"</p>
T3B	ANNEX A – Para A2.2.1.5.2 & A2.2.1.6	<p><b>Mobility and Automatic Brake</b></p> <p>The Large ROV must traverse a dry grass-covered slope of no less than 15 degrees (26.8% grade) while carrying the minimum payload weight, see ANNEX A para. A2.2.1.7.2 (page 26).</p> <p>The Large ROV must hold position when not commanded to move, including when the Large ROV is stopped on uneven ground or slopes and while carrying the minimum payload weight, see ANNEX A para. A2.2.1.7.2 (page 26).</p>	<p><b>Equipment Requirements:</b> One (1) Large ROV carrying the payload and CCS, with one set of batteries each, turf surface, tilt table and safety tether.</p> <p><b>Large ROV Operator:</b> Bidder personnel.</p> <p><b>Concept of Test - Grass (15° Traverse):</b> The Large ROV will have to climb, traverse, and descend a 15° slope on an artificial turf surface that is dry to the touch. Furthermore, the Large ROV will have to stop and hold a stationary position during the climb and descent. The Large ROV will be allowed three (3) attempts to complete the entire test. A payload of 5.0 kg will be attached to the tactical rail. The 5.0 kg payload will be a cylinder approximately 75 mm diameter x 300 mm long mounted to a mating tactical rail. The evaluator will provide a safety tether for the test to minimize damage to the Large ROV.</p> <p><b>Procedures:</b></p> <ol style="list-style-type: none"> <li>1. The evaluator will use a safety tether for the test. Dry artificial turf will be placed on a tilt table.</li> <li>2. The Large ROV will climb, traverse, and descend a turf-covered surface with a slope angle of 15°.</li> <li>3. The Large ROV will navigate path from A to B to C to D in forward and reverse motions respectively (see <b>Figure 1</b> below) according to <b>Table 1</b> (below). The Large ROV will stop and hold a stationary position for five (5) seconds at each location noted in <b>Table 1</b> (below).</li> <li>4. The Large ROV will have three (3) attempts to complete the test.</li> </ol> <p><b>Compliance achieved if the Large ROV completes the tasks identified in <b>Table 1</b> and <b>Figure 1</b> (below) with the 5.0 kg payload.</b></p>	<p>"NC"</p>
T3C	ANNEX A – Para A2.2.1.5.3	<p><b>Mobility</b></p> <p>The Large ROV must climb and descend dry grass-covered slopes of no less than 30 degrees (57.7% grade) while carrying the minimum payload weight, see ANNEX A para. A2.2.1.7.2 (page 26).</p> <p>The Large ROV must hold position when not commanded to move, including when the Large ROV is stopped on uneven ground or slopes and while carrying the minimum payload weight, see ANNEX A para. A2.2.1.7.2 (page 26).</p>	<p><b>Equipment Requirements:</b> One (1) Large ROV carrying the payload and CCS, with one set of batteries each, turf surface, tilt table and safety tether.</p> <p><b>Large ROV Operator:</b> Bidder personnel.</p> <p><b>Concept of Test – Grass (30° Ascend and Descend):</b> The Large ROV will have to climb and descend a 30° slope on an artificial turf surface that is dry to the touch. Furthermore, the Large ROV will have to stop and hold a stationary position during the ascent and descent. The Large ROV will be allowed three (3) attempts to complete the entire test. A payload of 5.0 kg will be attached to the tactical rail. The 5.0 kg payload will be a cylinder approximately 75 mm diameter x 300 mm long mounted to a mating tactical rail. The evaluator will provide a safety tether to minimize damage to the Large ROV.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. The evaluator will provide a safety tether for the test. Dry, artificial turf will be placed on a tilt table.</li> <li>2. The Large ROV will climb and descend a turf-covered surface with a slope angle of 30°.</li> </ol>	<p>"C"</p>

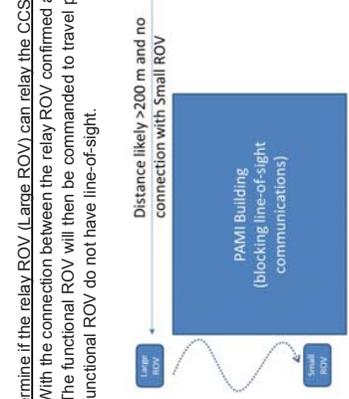
Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)
			<p>3. The Large ROV will navigate path from A to B and B to A only in forward and reverse motions respectively (see Figure 1). The Large ROV will stop and hold a stationary position for five (5) seconds at locations A and B.</p> <p>4. The Large ROV will have three (3) attempts to complete the test.</p> <p><b>Compliance achieved if the Large ROV achieves path A to B only in forward and reverse directions as shown in Table 1 (below) and Figure 1 with the 5.0 kg payload.</b></p>  <p><b>Top View:</b></p> <p>---&gt; ROV Travel Path</p> <p>7.3 m</p> <p>3 m</p> <p>Platform</p> <p>Grass-covered tilt table</p> <p>Platform</p> <p>Grass-covered tilt table</p> <p><b>Side View:</b></p> <p>Grass-covered tilt table</p> <p>Slope Angle</p> <p>Start/Finish Platform</p> <p>Paved ground</p> <p>Figure 1. Test apparatus for grass-covered slope test.</p>	<p>"C"</p> <p>"NC"</p>

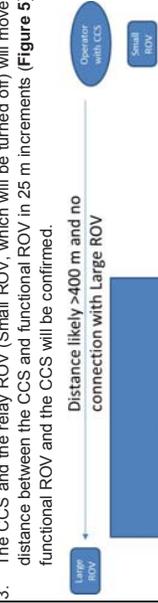
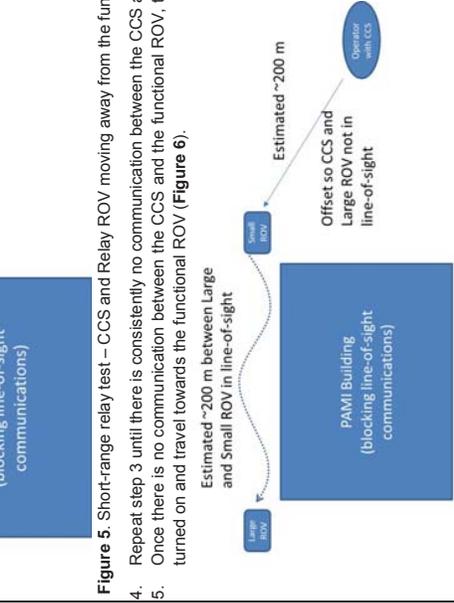
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			<p><b>Table 1.</b> Large ROV navigation paths on grass-covered slopes.</p> <table border="1"> <thead> <tr> <th>Path</th> <th>Motion Direction</th> <th>Task</th> </tr> </thead> <tbody> <tr> <td>A to B</td> <td>Forward</td> <td>Large ROV to climb the slope.</td> </tr> <tr> <td>At B</td> <td>Forward</td> <td>Large ROV to stop and hold a stationary position for five seconds before making a turn.</td> </tr> <tr> <td>B to C</td> <td>Forward</td> <td>Large ROV to traverse the turf surface. During the traverse, the Large ROV must be able to recover from a slide.</td> </tr> <tr> <td>At C</td> <td>Forward</td> <td>Large ROV to make a turn then stop and hold a stationary position for five seconds.</td> </tr> <tr> <td>C to D</td> <td>Forward</td> <td>Large ROV to descend the slope.</td> </tr> <tr> <td>A to B</td> <td>Reverse</td> <td>Large ROV to climb the slope.</td> </tr> <tr> <td>At B</td> <td>Reverse</td> <td>Large ROV to stop and hold a stationary position for five seconds before making a turn.</td> </tr> <tr> <td>B to C</td> <td>Reverse</td> <td>Large ROV to traverse the turf surface. During the traverse, the Large ROV must be able to recover from a slide.</td> </tr> <tr> <td>At C</td> <td>Reverse</td> <td>Large ROV to make a turn then stop and hold a stationary position for five seconds.</td> </tr> <tr> <td>C to D</td> <td>Reverse</td> <td>Large ROV to descend the slope.</td> </tr> </tbody> </table>	Path	Motion Direction	Task	A to B	Forward	Large ROV to climb the slope.	At B	Forward	Large ROV to stop and hold a stationary position for five seconds before making a turn.	B to C	Forward	Large ROV to traverse the turf surface. During the traverse, the Large ROV must be able to recover from a slide.	At C	Forward	Large ROV to make a turn then stop and hold a stationary position for five seconds.	C to D	Forward	Large ROV to descend the slope.	A to B	Reverse	Large ROV to climb the slope.	At B	Reverse	Large ROV to stop and hold a stationary position for five seconds before making a turn.	B to C	Reverse	Large ROV to traverse the turf surface. During the traverse, the Large ROV must be able to recover from a slide.	At C	Reverse	Large ROV to make a turn then stop and hold a stationary position for five seconds.	C to D	Reverse	Large ROV to descend the slope.		
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T4	ANNEX A – Para A2.2.2.1.1	<p><b>Line-of-Sight – Control and Communication</b></p> <p>The CCS must maintain communication with and control of the Large ROV at a distance of no less than 400m on open terrain.</p>	<p><b>Equipment Requirements:</b> One (1) Large ROV and CCS with one set of batteries each and a calibrated tape measure.</p> <p><b>Large ROV Operator:</b> The evaluator will set up the Large ROV and CCS and operate them.</p> <p><b>Concept of Test:</b> This test focuses on the Large ROV's operating range via RF control and communication between the Large ROV and control station via RF means (for example one-way audio, camera, sensor data transmission). The Large ROV will navigate a 400 m path with an RF line-of-sight.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>At the test site, evaluator personnel will unload the Large ROV system and set up the system for operation via RF control.</li> <li>The Large ROV will be placed near the CCS, and the Large ROV operator will activate the cameras before the Large ROV leaves the CCS. During the test, the evaluator will visually check the control station monitor to ensure the Large ROV transmits sensor and camera data back to the CCS.</li> <li>From the CCS, the Large ROV operator will navigate the Large ROV on a straight path to the next checkpoints (100 m, 200 m, 300 m) and finish line (400 m from the CCS). At each checkpoint, the Large ROV will stop, and the evaluator will check that:             <ol style="list-style-type: none"> <li>the operator still has navigational control of the Large ROV, and</li> <li>the CCS can activate the manipulator arm and gripper.</li> </ol> </li> <li>The operator will drive the Large ROV via its camera. If the operator loses live video feed (small fluctuations are acceptable), one-way audio, navigation control, or cannot activate the manipulator arm and gripper, the particular attempt will end. When the Large ROV arrives at the finish line or stops operating due to a lost RF signal, the evaluator will record the distance travelled and bring the Large ROV back to the control station.</li> <li>An evaluator will follow the Large ROV to allow testing of the one-way audio communication between the Large ROV and the CCS.</li> </ol>																																			

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
			<p>5. The Large ROV will have two (2) attempts to complete this test.</p> <p><b>Compliance achieved</b> if the Large ROV operator maintains navigational and manipulator arm/gripper control throughout the distance to the 400 m, and can view the terrain via a camera on the Large ROV. If the operator loses the live video camera feed (small fluctuations are acceptable) or navigation or manipulator arm/gripper control, then the Large ROV will be non-compliant for that particular attempt.</p>		
T5	ANNEX A – Para A2.2.3.1	<p><b>Battery Operation</b> Each Battery Set of the CCS and Large ROV must provide no less than two (2) hours of operation at an approximate ideal temperature of 20°C (+/- 3 °C).</p> <p>Operation is defined as:</p> <ol style="list-style-type: none"> <li>Power-on and initialization sequence of the Large ROV and CCS.</li> <li>Movement of the Large ROV 'down range' for 200m, with periodic movements throughout the majority of the two (2) hours, and then returning back for 200m before the two (2) hours has expired, and</li> <li>Continuous video transmission (small fluctuations are acceptable) between the Large ROV and CCS throughout the two (2) hours.</li> </ol>	<p><b>Equipment Requirements:</b> One (1) Large ROV and CCS with one set of batteries each, a calibrated tape measure, and a calibrated stop watch.</p> <p><b>Large ROV Operator:</b> The evaluator will set up the Large ROV and CCS and operate them.</p> <p><b>Concept of Test:</b> Testing will be conducted in a similar manner to 3.7 Evaluation Trial – Large ROV System – Serial T4.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>At the test site, evaluator personnel will unload the Large ROV system and set up the system for operation via RF control. The Large ROV will be placed at the CCS. The Large ROV operator will activate the cameras before the Large ROV leaves the CCS. During the test, the evaluator will visually check the CCS monitor to ensure the Large ROV transmits sensor and camera data back to the CCS.</li> <li>From the CCS, the Large ROV operator will navigate (over pavement or concrete, and at a maximum speed that still maintains control) the Large ROV on a straight path to the next checkpoints (50 m, 100 m, 150 m, and 200 m from the CCS). At each checkpoint, the Large ROV will stop and the evaluator will check that: <ol style="list-style-type: none"> <li>the operator still has navigational control of the Large ROV, and</li> <li>the CCS can activate the manipulator arm and gripper.</li> </ol> </li> <li>The operator will drive the Large ROV via its camera. If the operator loses live video feed (small fluctuations are acceptable), one-way audio, navigation control, or cannot activate the manipulator arm and gripper, the particular attempt will end. If the Large ROV stops operating due to a lost RF signal, the evaluator will record the distance travelled and bring the Large ROV back to the control station.</li> <li>With the Large ROV 200 m from the CCS, the Large ROV will be periodically moved (no more than 50% of the time moving and the remaining time stopped) while observing through the camera. The Large ROV will drive back to the CCS (repeating Step 3) ensuring that it has operated for no less than two (2) hours.</li> <li>An evaluator will follow the Large ROV to allow testing of the one-way audio communication between the Large ROV and the CCS.</li> <li>The Large ROV will have two (2) attempts (with new or re-charged batteries) to complete this test.</li> </ol> <p><b>Compliance achieved</b> if the Large ROV can maintain communications and control over a distance of 200 m for a duration of no less than two (2) hours.</p>		

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)										
				"C"	"NC"									
T6A	ANNEX A – Para A2.2.5.3 & A2.2.5.4	<p><b>Manipulator Arm and Gripper</b></p> <p>The Manipulator Arm and Gripper must lift from the ground and carry objects of no less than 4.50 kg in weight.</p> <p>The Manipulator Arm and Gripper, when fully extended, must lift objects of no less than 3.00 kg in weight.</p>	<p><b>Evaluation Trial Method/Plan</b></p> <p><b>Equipment Requirements:</b> One (1) Large ROV with Arm &amp; Gripper, and CCS, with one set of batteries each, calibrated 3.0 kg and 4.5 kg weights with high-friction grip surfaces, and a calibrated tape measure.</p> <p><b>Large ROV Operator:</b> Evaluator personnel.</p> <p><b>Concept of Test - Lifting:</b> The Large ROV will lift objects weighing 3.0 kg and 4.5 kg from the ground and carry them a distance of 5 m. The Large ROV will have three (3) attempts per object to complete the test.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. 3.0 kg and 4.5 kg object lifts: <ol style="list-style-type: none"> <li>a. The Large ROV will lift 3.0 kg and 4.5 kg objects in front of the Large ROV, according to <b>Table 3</b>.</li> </ol> </li> </ol> <p><b>Table 3. Test conditions for object lift.</b></p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Test Condition</th> <th>Object Weight</th> <th>Manipulator Arm Condition</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3.0 kg</td> <td>Fully Extended</td> </tr> <tr> <td>2</td> <td>4.5 kg</td> <td>Ideal Lifting Position</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>b. The arm will be adjusted to an optimum position, and the Large ROV will be navigated around a 5 m square path while carrying the object.</li> <li>2. Note that the Large ROV cannot drag the object closer to itself to enable the lift. The lifting must be a clean, upward lift. If the Large ROV tips over during the lift, it will be considered unsuccessful. Once the Large ROV lifts and secures the object using its gripper, it must continue to hold the object while traversing the square path and not drop the object to the ground.</li> <li>3. The Large ROV will get three (3) attempts for each object.</li> </ol> <p><b>Compliance achieved if</b> the Large ROV can lift the 3.0 kg and 4.5 kg objects, traverse the 5 m square path, and then lower the objects.</p>	Test Condition	Object Weight	Manipulator Arm Condition	1	3.0 kg	Fully Extended	2	4.5 kg	Ideal Lifting Position	"C"	"NC"
Test Condition	Object Weight	Manipulator Arm Condition												
1	3.0 kg	Fully Extended												
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T6B	ANNEX A – Para A2.2.5.5 & A2.2.5.6	<p><b>Gripper</b></p> <p>The Gripper must have no less than 13.61 kg (approx. 30lb) of grip force.</p> <p>The Gripper must have no less than a 10 cm gripper opening to grasp objects.</p>	<p><b>Equipment Requirements:</b> One (1) Large ROV with Arm &amp; Gripper, and CCS, with one set of batteries each, calibrated load cell and instrumentation, and a calibrated tape measure.</p> <p><b>Large ROV Operator:</b> Evaluator personnel.</p> <p><b>Concept of Test – Gripper:</b> The Large ROV gripper will be opened to its maximum capability and its inside open dimension will be measured. Once opened, a load cell will be placed within the gripper and then closed, and then the grip force will be measured.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. The gripper will be opened to the maximum capability.</li> <li>2. The evaluator will measure the gripper's inside opening using a tape measure.</li> <li>3. With the gripper opened, a load cell will be placed between the grippers and then closed and the maximum sustained grip force will be measured.</li> </ol> <p><b>Compliance achieved if</b> the gripper can create a compressive force of no less than 133.5 N (30 lb) and open no less than 10 cm.</p>	"C"	"NC"									

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)
TTA	ANNEX A – Para A2.2.1.1 & A2.2.2.7	<p><b>Mobile Communication Relay &amp; Control - Large and Small ROV</b></p> <p>The Large ROV must continually act as a mobile RF communication relay, in a mesh-type network, to assist with communication connection with other Large ROVs and Small ROVs in a non-line-of-sight, subterranean, or reinforced concrete buildings, or to extend the range in line-of-sight applications.</p> <p>The CCS must be identical to the CCS used to control the Small ROV, and must switch between and operate either the Small ROV or Large ROV.</p> <p>The CCS, when not controlling a ROV, must display camera images from any other selected ROV within the mesh-type network.</p>	<p><b>Equipment Requirements:</b> One (1) Large ROV, (1) Small ROV and CCS with one set of batteries each, calibrated tape measure, and a concrete building.</p> <p><b>Large and Small ROV Operator:</b> Evaluator personnel.</p> <p><b>Concept of Test:</b> To activate the relaying abilities of the ROVs, a large distance will be used to break the communication link between the CCS and functional ROV. The relay ROVs will then be activated, and likely moved, to engage a connection between the functional ROV, relay ROV and CCS.</p> <p><b>Procedure:</b> This test procedure assumes the relay feature will be automatically engaged and the user does not need to select between relaying and direct communications with a ROV.</p> <p>Ensure one ROV is in contact with the CCS and the other ROV is not</p> <ol style="list-style-type: none"> <li>Park the Large and Small ROV (Figure 2) at the outside corner of a building.</li> </ol>  <p><b>Figure 2.</b> Long-range relay test – initial set-up.</p> <ol style="list-style-type: none"> <li>Parallel to one side of the building (Figure 3), increase the distance between the CCS and both ROVs in 25 m increments.</li> </ol>  <p><b>Figure 3.</b> Long-range relay test – CCS movement.</p>	<p>“C”</p>

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)
		<p>3. Turn off the first ROV and confirm connection between the second ROV and the CCS.</p> <p>4. Turn off the second ROV and turn on the first ROV to confirm the connection between the first ROV and the CCS.</p> <p>5. Repeat 2. through 4. until the connection between the CCS and one of the ROVs is lost.</p> <p>6. The ROV connected to the CCS will be designated as the relay ROV and the disconnected ROV will be designated the functional ROV.</p> <p>Determine if the relay ROV (Large ROV) can relay the CCS control to the functional ROV (Small ROV)</p> <p>7. With the connection between the relay ROV confirmed and the relay ROV turned on, the functional ROV will also be turned on.</p> <p>8. The functional ROV will then be commanded to travel perpendicular to the CCS and relay ROV (Figure 4) so that the CCS and functional ROV do not have line-of-sight.</p>	 <p>Distance likely &gt;200 m and no connection with Small ROV</p> <p>PAMI Building (blocking line-of-sight communications)</p> <p>Once Small ROV is out-of-sight with CCS and controlled via the Large ROV then it is compliant</p> <p><b>Figure 4.</b> Long-range relay test – Functional ROV movement.</p> <p><b>Compliance achieved if</b> the functional ROV (Small ROV) can be controlled via the relaying ROV (Large ROV) and when images from either selected ROV can be displayed.</p>	<p>“C”</p>
T7B	ANNEX A – Para A1.2.1.1 & A1.2.2.2	<p><b>Mobile Communication Relay &amp; Control - Small and Large ROV</b></p> <p>The Small ROV must continually act as a mobile RF communication relay, in a mesh-type network, to assist with communication connection with other Small ROVs and Large ROVs in a non-line-of-sight, subterranean, or reinforced concrete buildings, or to extend the range in line-of-sight applications.</p> <p>The CCS must be identical to the CCS used to control the Large ROV, and must switch between</p>	<p><b>Equipment Requirements:</b> One (1) Large ROV, (1) Small ROV and CCS with one set of batteries each, calibrated tape measure, and a concrete building.</p> <p><b>Large and Small ROV Operator:</b> Evaluator personnel.</p> <p><b>Concept of Test:</b> To activate the relaying abilities of the ROVs, a large distance will be used to break the communication link between the CCS and functional ROV. The relay ROVs will then be activated, and likely moved, to engage a connection between the functional ROV, relay ROV and CCS.</p> <p><b>Procedure:</b> This test procedure assumes the relay feature will be automatically engaged and the user does not need to select between relaying and direct communications with a ROV.</p>	<p>“NC”</p>

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)
		<p>and operate either the Small ROV or Large ROV.</p> <p>The CCS, when not controlling a ROV, must display camera images from any other selected ROV within the mesh-type network.</p>	<p>Determine if the relay ROV (Small ROV) can relay the CCS control to the functional ROV (Large ROV).</p> <ol style="list-style-type: none"> <li>The functional and relay ROVs will swap roles.</li> <li>The functional ROV (Large ROV) will be parked at the outside corner of a building.</li> <li>The CCS and the relay ROV (Small ROV, which will be turned off) will move parallel to one side of the building, increasing the distance between the CCS and functional ROV in 25 m increments (Figure 5). At each increment, communications between the functional ROV and the CCS will be confirmed.</li> </ol>  <p><b>Figure 5.</b> Short-range relay test – CCS and Relay ROV moving away from the functional ROV.</p> <ol style="list-style-type: none"> <li>Repeat step 3 until there is consistently no communication between the CCS and the functional ROV.</li> <li>Once there is no communication between the CCS and the functional ROV, the relay ROV from the location of the CCS will be turned on and travel towards the functional ROV (Figure 6).</li> </ol>  <p>Once Large ROV is out-of-sight with CCS and controlled via the Small ROV then it is compliant</p> <p><b>Figure 6.</b> Short-range relay test – relay ROV moving towards the functional ROV and CCS moving out of line-of-sight with functional ROV.</p>	<p>“C”</p> <p>“NC”</p>

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
			<p>6. At 25 m increments from the CCS, the relay ROV will stop, and a connection with the functional ROV will be attempted.</p> <p>7. When the CCS can communicate with the functional ROV and is confirmed to be completely functional, then the relay ROV will be compliant with acting a line-of-sight RF communication relay.</p> <p>8. Once the connection between the CCS and the functional ROV is established, the relay ROV will travel an additional 25 m to 50 m closer to the functional ROV, and the CCS will move perpendicular to the travelling relay ROV and out of line-of-sight with the functional ROV (building will be in the way).</p> <p><b>Compliance achieved</b> If the functional ROV (Large ROV) can be controlled via the relay ROV (Small ROV) and when images from either selected ROV can be displayed.</p> <p>NOTE: If the range of one of the ROVs is twice as great as the other, then there is a possibility that using distance to activate the ROVs relaying feature is not suitable. If this occurs, then an alternate test method using a building to block RF signals will be used to confirm the Small ROV's ability to be used as a non-line-of-sight communications relay.</p>		
T8A	ANNEX A – Para A2.4.2.1	<p><b>Atmospheric Conditions</b></p> <p>The Large ROV must operate in heavy rain up to 20 mm/hr and rain driven by wind gusts up to 40 km/h over a period of no less than one (1) hour operation.</p>	<p><b>Equipment Requirements:</b> One (1) Large ROV and CCS, with one set of batteries each, and test apparatus;</p> <p><b>Large ROV Operator:</b> Evaluator personnel will operate the Large ROV.</p> <p><b>Concept of Test - Heavy Rain:</b></p> <p>The Large ROV will be operated in a simulated rain of up to 20 mm/hr rainfall rate with wind of up to 40 km/h.</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. The evaluator will set up the test apparatus to simulate rain up to 0.33 mm/min rainfall rate and up to 11.1 m/s wind.</li> <li>2. The Large ROV will be operated on a figure eight track for a total of 60 minutes with an operation pattern of 10-minute drive/10-minute park under the simulated rain. There will be one layer of 5 cm thick concrete slabs on the track. The Large ROV will be inspected at the 20 min and 40 min intervals during this evaluation.</li> <li>3. Large ROV inspection will include verification of Large ROV movements (wheels/tracks, camera tilt (if tilt is possible), manipulator arm, and gripper), operation of video communication, operation of wheel brakes, verification of power-on and initialization sequence, and signs of damage and water accumulation in the Large ROV.</li> <li>4. The Large ROV will be given two (2) attempts to complete this test.</li> </ol> <p><b>Compliance achieved</b> If the Large ROV continues to operate and is fully functional throughout the entire heavy rain test.</p>		
T8B	ANNEX A – Para A2.4.2.2	<p><b>Atmospheric Conditions</b></p> <p>The Large ROV must operate in blowing sand and dust caused by wind gusts up to 40 km/h over a period of no less than one (1) hour.</p>	<p><b>Equipment Requirements:</b> One (1) Large ROV and CCS, with one set of batteries each, and test apparatus;</p> <p><b>Large ROV Operator:</b> Evaluator personnel will operate the Large ROV.</p> <p><b>Concept of Test - Blowing Sand:</b></p> <p>The Large ROV will make 360° turns in blowing sand environment with conditions shown in <b>Table 4</b> (below). After the sand exposure, the evaluator will visually verify that the Large ROV is functional.</p>		

Serial	Requirement Reference(s)	Requirement Description	Evaluation Trial Method/Plan	Compliance (This column is for the Evaluation Team only)										
			<p><b>Table 4.</b> Test conditions for the blowing sand test.</p> <table border="1" data-bbox="576 577 722 745"> <tr> <td>Material</td> <td>Ground Calcium Carbonate</td> </tr> <tr> <td>Particle size (µm)</td> <td>150 - 850</td> </tr> <tr> <td>Air velocity (m/s)</td> <td>Up to ~11.1</td> </tr> <tr> <td>Ambient air temperature (°C)</td> <td>Up to 30</td> </tr> <tr> <td>Sand concentration (g/m<sup>3</sup>)</td> <td>2.2 ± 0.5</td> </tr> </table> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>The Large ROV will be placed immediately in front of the test apparatus with the Large ROV's front chassis facing the apparatus (refer to <b>Figure 7</b> for diagram of test chamber and apparatus), the hopper will be filled with sand particles and start the fan on the test apparatus.</li> <li>The Large ROV will be exposed to the air/sand stream for 10 minutes. During the exposure, the Large ROV will repeatedly perform the following manoeuvres:             <ol style="list-style-type: none"> <li>360° pivot turn in a clockwise (CW) direction.</li> <li>Tilting of the camera to the maximum angle (if camera tilts).</li> <li>360° pivot turn in a counter-clockwise (CCW) direction.</li> </ol> </li> <li>The Large ROV will be driven out of the air/sand stream.</li> <li>Operation of the Large ROV will be verified by doing the following:             <ol style="list-style-type: none"> <li>The Large ROV operator will navigate the Large ROV on a straight path (two 5 m runs) with a U-turn at the end of first run.</li> <li>The evaluator will visually verify normal operation of the Large ROV (including verification of Large ROV movements (wheels/tracks, camera tilt (if tilt is possible), manipulator arm, and gripper), operation of video communication, operation of wheel brakes).</li> </ol> </li> <li>The Large ROV will have two (2) attempts to complete this test.</li> </ol> <p><b>Compliance achieved if</b> the Large ROV continues to operate and is fully functional throughout the entire sand test.</p>	Material	Ground Calcium Carbonate	Particle size (µm)	150 - 850	Air velocity (m/s)	Up to ~11.1	Ambient air temperature (°C)	Up to 30	Sand concentration (g/m <sup>3</sup> )	2.2 ± 0.5	<p>"C"</p>
Material	Ground Calcium Carbonate													
Particle size (µm)	150 - 850													
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Ambient air temperature (°C)	Up to 30													
Sand concentration (g/m <sup>3</sup> )	2.2 ± 0.5													
				<p>"NC"</p>										

Solicitation No. - N° de l'invitation  
W8476-185848  
Client Ref. No. - N de rf. du client  
W8476-185848

Amd. No. - N de la modif.  
File No. - N du dossier  
030qfW8476-185848

Buyer ID - Id de l'acheteur  
030qf  
CCC No./N CCC - FMS No./N VME

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## ANNEX E

### DELIVERY SCHEDULE

#### Remote Operated Vehicle (ROV)

This documents consists of this page plus one (1) additional page

**Basis of Payment - Remote Operated Vehicle**

MANDATORY COMPLETION OF EACH PRICE "BOX". IF THERE IS NO COST PLEASE INSERT "0" or Nil.							
Item #	Item Description	Qty	Unit price	Total price			
1	Small ROV System (para. A1.0)	79					
2	Large ROV System (para. A2.0)	9					
3	Contract Status Report (para. 3.2.1)	LOT					
4A	Kick-off Meeting (para. 3.3.2)	1					
4B	Meeting Agenda (para. 3.3.5.1.1)	LOT					
4C	Meeting Minutes (para. 3.3.5.1.2)	LOT					
5A	ILS Meeting (para. 3.3.3)	1					
5B	Meeting Agenda (para. 3.3.5.1.1)	LOT					
5C	Meeting Minutes (para. 3.3.5.1.2)	LOT					
6	Top Level Assembly Drawing(s) (para. 3.3.2.2)	LOT					
7	Application for Spectrum Supportability (para. 4.3.1)	LOT					
8	Operator Manual (para. 4.4.1.1.1)	LOT					

9	Operator Quick Reference Card (para. 4.4.1.2.1)	LOT			
10	Repair Manual (para. 4.4.1.3.1)	LOT			
11	Illustrated Parts Manual (para. 4.4.1.4.1)	LOT			
12	Operator Training Package (para. 4.4.1.5.1)	LOT			
13	Technician Training Package (para. 4.4.1.6.1)	LOT			
14	Provisioning Parts Breakdown (para. 4.5.1.1.1)	LOT			
15	Supplementary Provisioning Technical Documentation (para. 4.5.1.2.1)	LOT			
16	Special Tool & Testing Equipment (para. 4.5.1.3.1) Contractor to provide a list of equipment, if any.	LOT			
17A	Initial Provisioning Conference (para. 4.6.1)	1			
17B	Meeting Agenda (para. 3.3.5.1.1)	LOT			
17C	Meeting Minutes (para. 3.3.5.1.2)	LOT			

18	Identification Plates (para. 4.7.1)	LOT				
19	Controlled Goods List (para. 4.8.1)	LOT				
20	Packaging, Labels and Codes (para. 4.9.3)	LOT				
21	Repair & Overhaul Plan (para. 4.10.1)	LOT				
22	Operator Training Session – 2 Days (para. 4.11.2)	Training Location:				
		CFB Gagetown	1			
		CFB Edmonton	1			
23	Operator Training Session – 1 Day (para. 4.11.2)	Training Location:				
		CFB Gagetown	1			
		CFB Valcartier	1			
	CFB Petawawa	1				

24	Technician Training Session – 2 Days (para. 4.11.2)	Training Location:				
		CFB Gagetown	1			
		CFB Edmonton	1			
25	Technician Training Session – 1 Day (para. 4.11.2)	Training Location:				
		CFB Gagetown	1			
		CFB Valcartier	1			
		CFB Petawawa	1			
26	Packing cost for all items					
27	Shipping cost for all items (exclude customs and excise cost)					
28	Any other associated charges					
			<b>Subtotal (to be evaluated)</b>			
				<b>GST/HST</b>	\$	-
				<b>Total</b>		
Note 1:	Items 1 - 28 above will be evaluated for the lowest over price.					
Note 2:	'LOT' equates to the quantity needed to fulfill the requirements of the CDRL and revisions, until accepted by DND.					

Optional Requirement:					
Item #	Item Description	Qty	Unit price	Total price	
29	Potential Additional Work Request	-	TBD	TBD	
30	Small ROV System (para. A1.0), up to 31 additional units, including Operator Manual, Operator Quick Reference Card and Repair Manual	31			
31	Large ROV System (para. A2.0), up to 1 additional unit, including Operator Manual, Operator Quick Reference Card and Repair Manual	1			
32	<b>Option</b> to acquire Spare Parts after approval from DND	-	TBD	TBD	
33	<b>Option</b> to acquire Special Tool & Testing Equipment after approval from DND. Contractor to provide a list, if any.	-	TBD	TBD	
<p><b>Options:</b> will be exercised within (2) years after contract award, with delivery to be completed within six (6) months after exercising the options.</p>					

Solicitation No. - N° de l'invitation  
W8476-185848  
Client Ref. No. - N de rf. du client  
W8476-185848

Amd. No. - N de la modif.  
File No. - N du dossier  
030qfW8476-185848

Buyer ID - Id de l'acheteur  
030qf  
CCC No./N CCC - FMS No./N VME

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**ANNEX G**  
PART 5 OF THE BID SOLICITATION

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

**Remote Operated Vehicle (ROV)**

This documents consists of this page, plus one (1) additional pages

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## 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 Instructi