



**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
**Bid Receiving Public Works and Government**  
**Services Canada/Réception des soumissions**  
**Travaux publics et Services gouvernementaux**  
**Canada**  
**1713 Bedford Row**  
**Halifax, N.S./Halifax, (N.É.)**  
**B3J 1T3**  
**Nova Scotia**  
**Bid Fax: (902) 496-5016**

## REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION

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

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

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

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

**Comments - Commentaires**

**Vendor/Firm Name and Address**

**Raison sociale et adresse du  
fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**

Atlantic Region Acquisitions/Région de l'Atlantique  
Acquisitions  
1713 Bedford Row  
Halifax, N.S./Halifax, (N.É.)  
B3J 3C9  
Nova Scot

<b>Title - Sujet</b> VESSEL CAP. TERREST. LASER SCANNER	
<b>Solicitation No. - N° de l'invitation</b> FP845-160060/A	<b>Date</b> 2016-08-26
<b>Client Reference No. - N° de référence du client</b> FP845-160060	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$HAL-409-9921	
<b>File No. - N° de dossier</b> HAL-6-77068 (409)	<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 2016-10-11</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Atlantic Daylight Saving Time ADT
<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> Taylor, Kathie	<b>Buyer Id - Id de l'acheteur</b> hal409
<b>Telephone No. - N° de téléphone</b> (902) 496-5510 ( )	<b>FAX No. - N° de FAX</b> (902) 496-5016
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>  Specified Herein Précisé dans les présentes	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b> See Herein	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>          <b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/ 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	1 CHALLENGER DRIVE (P.O. BOX 1006) BIO, VAN STEENBURGH, 4TH FLOOR, W/S 40 DARTMOUTH, NS B2Y 4A2	I - 1	JULIE DANIS 200 KENT STREET - 12W089 OTTAWA ON K1A 0E6



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	VESSEL CAPABLE TERRESTRIAL LASER S CANNER IN ACCORDANCE WITH THE ASSOCIATED TECHNICAL SPECIFICATIONS DETAILED IN THE ATTACHED STATEMENT OF REQUIREMENTS	D - 1	I - 1	1	Each	\$	\$	See Herein	
2	OPTION TO PURCHASE AN ADDITIONAL 2 LASER SCANNERS IN THE NEXT TWO FISCAL YEARS. FY 2017-18	D - 1	I - 1	1	Each	\$	\$	See Herein	
3	OPTIONAL PURCHASE FY 2018-19	D - 1	I - 1	1	Each	\$	\$	See Herein	

## TABLE OF CONTENTS

<b>PART 1 - GENERAL INFORMATION .....</b>	<b>2</b>
1.1 SECURITY REQUIREMENTS .....	2
1.2 REQUIREMENT .....	2
1.3 DEBRIEFINGS .....	2
<b>PART 2 - BIDDER INSTRUCTIONS .....</b>	<b>2</b>
2.1 STANDARD INSTRUCTIONS, CLAUSES AND CONDITIONS .....	2
2.2 SUBMISSION OF BIDS .....	2
2.3 ENQUIRIES - BID SOLICITATION .....	2
2.4 APPLICABLE LAWS.....	3
<b>PART 3 - BID PREPARATION INSTRUCTIONS.....</b>	<b>3</b>
3.1 BID PREPARATION INSTRUCTIONS.....	3
<b>PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION .....</b>	<b>4</b>
4.1 EVALUATION PROCEDURES .....	4
4.2 BASIS OF SELECTION .....	4
<b>PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION .....</b>	<b>4</b>
5.1 CERTIFICATIONS PRECEDENT TO CONTRACT AWARD AND ADDITIONAL INFORMATION .....	4
<b>PART 6 - RESULTING CONTRACT CLAUSES .....</b>	<b>5</b>
6.1 SECURITY REQUIREMENTS .....	5
6.2 REQUIREMENT .....	5
6.3 STANDARD CLAUSES AND CONDITIONS .....	5
6.4 TERM OF CONTRACT .....	5
6.5 AUTHORITIES .....	5
6.6 PAYMENT .....	7
6.7 INVOICING INSTRUCTIONS .....	7
6.8 CERTIFICATIONS AND ADDITIONAL INFORMATION.....	7
6.9 APPLICABLE LAWS.....	7
6.10 PRIORITY OF DOCUMENTS .....	7
6.11 SACC MANUAL CLAUSES.....	8
<b>ANNEXES</b>	
Annex A – Statement of Requirement.....	9
Annex B – Basis of Payment.....	11
Annex C – Cross Reference Data.....	12

## PART 1 - GENERAL INFORMATION

### 1.1 Security Requirements

There is no security requirement associated with this solicitation.

### 1.2 Requirement

The Department of Fisheries & Oceans – Canadian Hydrographic Survey, Dartmouth, NS, has a requirement for the supply, delivery and training of one (1) vessel capable terrestrial laser scanner system, as fully detailed in Annex A.

### 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 Trade Agreements

This requirement is subject to The Agreement on Internal Trade (AIT) and the North America Free Trade Agreement (NAFTA).

## PART 2 - BIDDER INSTRUCTIONS

### 2.1 Standard Instructions, Clauses and Conditions

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

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

The 2003 (2016-04-04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

### 2.2 Submission of Bids

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

### 2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit

the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

## **2.4 Applicable Laws**

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

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

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

### **3.1 Bid Preparation Instructions**

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

Section I: Technical Bid (two hard copies)  
Section II: Financial Bid (one hard copy)  
Section III: Certifications (one hard copy)

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

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

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

In their technical bid, Bidders shall explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

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

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Applicable Taxes must be shown separately.

#### **Section III: Certifications**

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

### **3.2 SACC Manual Clauses**

B100T Condition of Material (2014-06-26)

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

### **4.1 Evaluation Procedures**

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

#### **4.1.1 Technical Evaluation**

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

Fully detailed in Annex A

#### **4.1.2 Financial Evaluation**

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, FOB destination, Canadian customs duties and excise taxes included.

### **4.2 Basis of Selection**

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

## **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 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 provided will render the bid non-responsive.

#### **5.1.1 Integrity Provisions – Required Documentation**

In accordance with 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.

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

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

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.

## PART 6 - RESULTING CONTRACT CLAUSES

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

### 6.1 Security Requirements

There is no security requirement applicable to the Contract.

### 6.2 Requirement

The Contractor must provide the items detailed under the "Requirement" at Annex "A".

### 6.3 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.

#### 6.3.1 General Conditions

2010A (2016-04-04), General Conditions - Goods (Medium Complexity) apply to and form part of the Contract.

### 6.4 Term of Contract

#### 6.4.1 Delivery Date

Please provide best delivery: \_\_\_\_\_

### 6.5 Authorities

#### 6.5.1 Contracting Authority

The Contracting Authority for the Contract is:



Solicitation No. - N° de l'invitation  
FP845-160060/A  
Client Ref. No. - N° de réf. du client  
FP845-16-0060

Amd. No. - N° de la modif.  
File No. - N° du dossier  
HAL-6-77068

Buyer ID - Id de l'acheteur  
hal409  
CCC No./N° CCC - FMS No./N° VME

Kathie Taylor  
Supply Officer  
Public Works and Government Services Canada  
Acquisitions Branch  
1713 Bedford Row  
Halifax, NS B3J 3C9  
Telephone: 902-496-5510  
Facsimile: 902-496-5016  
E-mail address: kathie.taylor@pwgsc.gc.ca

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

#### 6.5.2 Project Authority

The Project Authority for the Contract is: (to be inserted at contract award)

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

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

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority, however the Project 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.

#### 6.5.3 Contractor's Representative

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

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

## **6.6 Payment**

### **6.6.1 Basis of Payment**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a *firm lot price for a cost of \$ \_\_\_\_\_ (insert the amount at contract award)*. 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.

### **6.6.2 Method of Payment**

#### **H1000C (2008-05012) Single Payment**

## **6.7 Invoicing Instructions**

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.
2. Invoices must be distributed as follows:
  - a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.

## **6.8 Certifications and Additional Information**

### **6.8.1 Compliance**

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

## **6.9 Applicable Laws**

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

## **6.10 Priority of Documents**

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

- (a) the Articles of the Agreement;
- (b) the general conditions 2010A (2016-04-04);
- (c) Annex A, Statement of Requirement;
- (d) the Contractor's bid dated \_\_\_\_\_

Solicitation No. - N° de l'invitation  
FP845-160060/A  
Client Ref. No. - N° de réf. du client  
FP845-16-0060

Amd. No. - N° de la modif.  
File No. - N° du dossier  
HAL-6-77068

Buyer ID - Id de l'acheteur  
hal409  
CCC No./N° CCC - FMS No./N° VME

## **6.11 SACC Manual Clauses**

G1005C Insurance Requirements (2008-05-12)

## **Annex A Requirement**

### **Vessel Capable Terrestrial Laser Scanner**

The Department of Fisheries and Oceans - Canadian Hydrographic Survey (CHS) require one (1) vessel-capable terrestrial laser scanner system. The scope of supply must include all required hardware, software, documentation and training.

#### **Background**

Hydrographic surveys require that features important to the safety of marine navigation both above and below the surface of the water be accurately identified and positionally located. Some shoreline features such as rocks, islands, breakwaters, pylons, piers, wharfs and bridges are often difficult or dangerous to access and very time consuming to plot by traditional means.

A mobile terrestrial laser scanner system mounted on a hydrographic survey vessel and integrated into the vessel's inertial Global Positioning System (GPS) navigation system will improve the safety and capability of collecting data above the low water line, while simultaneously collecting multi-beam sonar data.

The system must be deployable on a tripod mount in order to increase the capability of the system to position features required on marine charts, in accordance with the CHS mandate, which are either inaccessible by water or not discernible from the vessels hull-mounted sonar.

#### **A. MANDATORY MINIMUM TECHNICAL REQUIREMENTS**

The supplier must provide a complete Vessel capable terrestrial laser scanner system including all required hardware and software. The terrestrial laser scanner system must be capable of positioning terrestrial features to Canadian Hydrographic Standards in both dynamic and static modes of data acquisition. The terrestrial laser scanner system must be capable of being integrated with the latest CHS geo-referencing and motion compensation systems and with CHS logging, error removal, visualization, and chart production software.

Detailed design and performance requirements are as follows:

1. Must be survey launch mountable for mobile marine surveys, tripod mountable for stationary terrestrial surveys and include any special mounts required for both.
2. Must be equipped for a physical (wired) electronic interface with an Applanix POS MV Model 320 inertial navigation system for real time attitude and position corrections during mobile dynamic marine surveys. The Supplier must provide an input connector to suit the Applanix model 320 Version 4 and Version 5 input receptacles.
3. Must be supported by CHS Acquisition Survey Software (HYPACK / QINSy) and CHS Processing Software (CARIS HIPS/SIPS).
4. The terrestrial laser scanner must be capable of the following response sensitivities using an eye safe laser (IEC Class 1) or (1M with on the fly ability to convert to IEC Class 1) under optimal atmospheric conditions:
  - i. For a target having 80% reflectivity, the effective response range must be not less than 1800 m.
  - ii. For a target having 10% reflectivity, the effective response range must be not less than 600 m

5. Must have a minimum vertical scan range of +/- 20° (40° total) for use during mobile marine surveys under adverse sea conditions.
  6. Must have a dual mirror scanning process to provide precise gridded scan patterns in both axes, and a minimum scan step size of 20  $\mu$ -rad.
  7. Must be capable of a minimum 10,000 measurements per second.
  8. Must come with a digital camera (minimum 16 megapixels with APS-C or larger image sensor) capable of automatic acquisition of images and producing calibrated geo-referenced digital pictures. The camera may be a part of a single integrated unit, or a separate and linked device. The vendor must deliver the terrestrial laser scanner and camera pre-configured and operable immediately upon receipt.
  9. Optionally have a horizontal scan range of 360° for terrestrial use and be capable of locking the horizontal scan heading for use on a survey launch and allowing for port or starboard scanning by changing the locked scan heading by 180° on the fly.
- B The supplier must provide complete documentation for the terrestrial laser scanner system describing both hardware and software, two (2) hard copies and one (1) soft copies, as follows:
1. Hardware manual describing all physical components.
  2. Parts list including sourcing list for hardware.
  3. Operator/Training manual, four (4) additional hard copies for a total of six (6) required.
  4. Software manual/guide book for foreground software.
- C The supplier must provide to Canada one training session with up to ten (10) participants consisting of up to 4 days ( 7 ½ hours per day) on site at the Bedford Institute of Oceanography, Dartmouth, NS. The training session will be scheduled to commence approximately 7 days after receipt of the system.
- Scope of training must include:
1. Principles of operation
  2. Practical on-the-water demonstration
  3. Maintenance and troubleshooting
- D The supplier must provide technical support at no additional cost, consisting of the following:
1. General technical support available via telephone and email at least 6 hours a day within normal working hours for the Atlantic Time Zone, for a period of 12 months after acceptance of the system; and
  2. Routine software updates for the terrestrial laser scanner system as they become available.
- E **Standards**
- Canadian Hydrographic Survey Standards for Hydrographic Surveys – June 2013, Edition 2.

Solicitation No. - N° de l'invitation  
FP845-160060/A  
Client Ref. No. - N° de réf. du client  
FP845-16-0060

Amd. No. - N° de la modif.  
File No. - N° du dossier  
HAL-6-77068

Buyer ID - Id de l'acheteur  
hal409  
CCC No./N° CCC - FMS No./N° VME

Must meet or exceed horizontal and vertical accuracies found in Table 2 "Standards for Positioning of Navigation Aids and Important Features" for "Fixed aids to and features significant to navigation" (HOR=50cm VER=50cm).

Solicitation No. - N° de l'invitation  
FP845-160060/A  
Client Ref. No. - N° de réf. du client  
FP845-16-0060

Amd. No. - N° de la modif.  
File No. - N° du dossier  
HAL-6-77068

Buyer ID - Id de l'acheteur  
hal409  
CCC No./N° CCC - FMS No./N° VME

## **Annex B**

### **Basis of Payment**

The price of the bid will be evaluated in Canadian dollars, the Goods and Services Tax or the Harmonized Sales Tax excluded, FOB destination including Canadian customs duties and excise taxes included.

Item	Qty	Unit of Issue	Unit Price	Extended Price
Supply and delivery of one (1) vessel-capable terrestrial laser scanner system, as fully detailed in Annex A	1	ea	\$ _____	\$ _____
Training session, as fully detailed in Annex A	1	ea	\$ _____	\$ _____
<b>TOTAL</b>				<b>\$ _____</b>

**Make and Model:** \_\_\_\_\_

### Annex C Cross Reference Data

Bidders are requested to provide cross-reference below to identify the page(s) where each mandatory minimum specification can be demonstrated in their technical documentation provided with bid. For the few criteria which are not identified in specification sheets/literature/brochures, your firm's indication of "Compliant" will be considered as certification that the requirement is met. Canada reserves the right to verify any and all information relating to mandatory requirements.

Minimum Mandatory Requirement	Compliant		Cross Reference Page Number
	YES	NO	
1. The supplier must provide a complete Vessel capable terrestrial laser scanner system including all required hardware and software. The terrestrial laser scanner system must be capable of positioning terrestrial features to Canadian Hydrographic Standards in both dynamic and static modes of data acquisition. The terrestrial laser scanner system must be capable of being integrated with the latest CHS geo-referencing and motion compensation systems and with CHS logging, error removal, visualization, and chart production software.			
2. Must be survey launch mountable for mobile marine surveys, tripod mountable for stationary terrestrial surveys and include any special mounts required for both.			
3. Must be supported by CHS Acquisition Survey Software (HYPACK / QINSy) and CHS Processing Software (CARIS HIPS/SIPS).			
4. The terrestrial laser scanner must be capable of the following response sensitivities using an eye safe laser (IEC Class 1) or (1M with on the fly ability to convert to IEC Class 1) under optimal atmospheric conditions:  i. For a target having 80% reflectivity, the effective response range must be not less than 1800 m.  ii. For a target having 10% reflectivity, the effective response range must be not less than 600 m.			
5. Must have a minimum vertical scan range of +/- 20° (40° total) for use during mobile marine surveys under adverse sea conditions.			
6. Must have a dual mirror scanning process to provide precise gridded scan patterns in both axes, and a minimum scan step size of 20 µ-rad.			
7. Must be capable of a minimum 10,000 measurements per second.			
8. Must come with a digital camera (minimum 16 megapixels with APS-C or larger image sensor) capable of automatic acquisition of images and producing calibrated geo-referenced digital pictures. The camera may be a part of a single integrated unit, or a separate and linked device. The vendor must deliver the terrestrial laser scanner and camera pre-configured and operable immediately upon receipt.			



Solicitation No. - N° de l'invitation  
FP845-160060/A  
Client Ref. No. - N° de réf. du client  
FP845-16-0060

Amd. No. - N° de la modif.  
File No. - N° du dossier  
HAL-6-77068

Buyer ID - Id de l'acheteur  
hal409  
CCC No./N° CCC - FMS No./N° VME

9. Optionally have a horizontal scan range of 360° for terrestrial use and be capable of locking the horizontal scan heading for use on a survey launch and allowing for port or starboard scanning by changing the locked scan heading by 180° on the fly.			
<b>Standards</b>  Canadian Hydrographic Survey Standards for Hydrographic Surveys – June 2013, Edition 2.  Must meet or exceed horizontal and vertical accuracies found in Table 2 “Standards for Positioning of Navigation Aids and Important Features” for “Fixed aids to and features significant to navigation” (HOR=50cm VER=50cm).			