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

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Bid Receiving Public Works and Government Services Canada/Réception des soumissions Travaux publics et Services gouvernementaux Canada
Pacific Region
401 - 1230 Government Street
Victoria, B.C.
V8W 3X4
Bid Fax: (250) 363-3344

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

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

Issuing Office - Bureau de distribution
Public Works and Government Services Canada - Pacific Region
401 - 1230 Government Street
Victoria, B. C.
V8W 3X4

Title - Sujet MULTIBEAM BATHYMETRIC SONAR SYSTEM	
Solicitation No. - N° de l'invitation EZ801-161760/A	**Amendment No. - N° modif.** 002
Client Reference No. - N° de référence du client EZ801-161760	**Date** 2016-01-26
GETS Reference No. - N° de référence de SEAG PW-$XLV-211-6884	
File No. - N° de dossier XLV-5-38169 (211)	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2016-02-03**	**Time Zone** **Fuseau horaire** Pacific Standard Time PST
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Buchan, Torrey	**Buyer Id - Id de l'acheteur** xlv211
Telephone No. - N° de téléphone (250) 216-2092 ( )	**FAX No. - N° de FAX** (250) 363-3960
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** Public Works and Government Services Canada #2 Annacis Parkway, Delta, B.C. V3M 6A2 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

Canada

This solicitation amendment has been issued to address a question posed by a bidder, revise annexes A and C, and extend the solicitation period.

QUESTION 1:
In Annex A, Article 3.2e, and Annex C, Article 1.28, state, “The system must be a flat array configuration.” Only one manufacturer of Multibeam sonar can meet this requirement. Why has this been solicited competitively when only one supplier can provide the system?

ANSWER 1:
There is an error in this particular article which will be adjusted. The wording was intended to state, “The system must be a flat receive array configuration.”

REVISIONS TO THE SOLICITATION

(i)
Under:

ANNEX A
REQUIREMENT

3. Technical Description
3.2 Size/Weight

e. Remove All.

Insert: “The system must be a flat receive array configuration“

(ii)
Under:

ANNEX C
TECHNICAL EVALUATION CRITERIA

PART 1: MANDATORY CRITERIA
1.28 Remove All.
Insert: “The system must be a flat receive array configuration “

Find the revised Annex A and C attached below.

All other terms and conditions remain the same.

ANNEX A
REQUIREMENT

Multibeam Bathymetric Sonar System
To provide Public Works & Government Services Canada (PWGSC) Pacific – Geomatics/Hydrographics with a Multibeam Bathymetric Sonar System for use in Hydrographic Surveys and Seabed Mapping.

SPECIFICATIONS

1. Scope

PWGSC Pacific requires a Dual Head Multibeam Bathymetric Sonar System with a multiple or selectable operating frequency option (sonar head(s), sonar processor unit, cables, acquisition/controlling software, manuals, warranty, and training) for near shore (1 – 200m) hydrographic survey work. The sonar will be used in an operational hydrographic surveying capacity aboard the PWGSC survey vessel *Profiler II* (approximately 14 meters in length). The system must comply with the Canadian hydrographic Service standards for hydrographic surveys "Exclusive Order" requirements for depths of 1 to 20m, comply to International Hydrographic Organization Standards for Hydrographic Surveys (S-44) "special Order" requirements for depths of 20m to 40m, and "Order 1a" requirements for depths over 40m. This procurement may be used by other Regions and/or Branches within the Federal Government of Canada.

2. General Terms

a. System proposed has been commercially available for the last 1 year and at least 5 systems must be in operation in the same operational context (IHO standards).

b. Contractors proposing 2 separate and/or distinct systems to meet these specifications will not be considered for this requirement.

c. Contractors proposing Interferometric or Bathymetric Sidescan systems will not be considered for this requirement.

d. All system components (hardware and software) must be under warranty and be inclusive of all required servicing and maintenance for a minimum of 1 year.

3. Technical Description

3.1 General System Features

a. System must have multiple frequencies (i.e., dual frequency) or have a user selectable operating frequency to achieve a greater depth range.

b. System must have an operating frequency range between 200 and 400 kHz.

c. The system must provide bathymetric data across a swath, at minimum, 8 times the water depth in up to 100 meters, and do +/- 100 degrees roll stabilized swath in typical operating conditions.

d. The system must include a bracket mounted sound velocity probe to supply sound speed at the sonar head depth to be utilized in real time.

e. The system must do receive beam focusing.

f. The system must ensure all components maintain a coherent sense of time with measurable latencies.

g. The system must achieve the special order Feature Detection ($1m^3$) of the Canadian hydrographic Service standards for hydrographic surveys in water depths of 20 meters or less inside a +/- 100 degree swath sector with vessel speeds up to 8 knots.

h. The system must provide imagery (acoustic backscatter intensity) data of the seafloor with a minimum range resolution of 5cm. The source levels and gain settings must be recorded with the data.

i. Both the bathymetric data and imagery must be provided in a format which can be readily imported into CARIS HIPS/SIPS software package, via a full function of the conversion wizard.

j. The system must accept and utilize vessel motion correctors (i.e., heave, pitch, roll, and heading) from an Applanix POS/MV320 or Wavemaster IMU.

k. The system must accept and utilize sound speed values and profile correctors from AML and Valeport sensors. Any or all of these corrections may be applied through both the manufacturer's proprietary software package in real time and in post-processing through CARIS HIPS/SIPS. Motion corrections applied in the sonar software must be flagged within the data stream to indicate what specific corrections were made within the sonar software.

l. The system must do roll-stabilization. It must do +/- 100 degrees swath sector with up to +/- 10 degrees of roll. The system must dynamically steer all beams based on the measured roll, not eliminate beams that roll outside of the desired sector.

m. The system should be upgradeable to log acoustic backscatter of the water column (volume backscatter), to a separate file.

n. The system must be compatible with Hypack Hysweep and QPS QINSy data logging software.

o. The system should have or be upgradeable to have a steerable projector/transmitter and multi-ping mode to account for the effects of vessel pitch and yaw.

p. Contractor should provide uncertainty propagation model for horizontal and vertical errors (or alternatively range and angle of reception errors).

q. The system should supply, within its data stream, a beam quality indicator that can be captured in Post-Processing for Quality Control.

r. If the system consists of separate transducer elements (i.e., 1 transmit element and 2 receive elements, 2 transmit elements and 2 receive elements, or 2 distinct elements), all sonar elements (transmitters and receivers) must fit on one bracket. A calibrated bracket must be supplied with the system that complies with the system alignment requirements.

3.2 Size/Weight

a. The system must suit installation aboard vessels as small as 7 meters in length.

b. The system must be operable in a fixed mounted configuration, (i.e., hull mounted and pole mounted).

c. The system (sonar head(s) and processor unit combined) must weigh no more than 100 kg in air.

d. The systems transmit and receive arrays must be 0.5 meters or less in length.

e. The system must be a flat receive array configuration.

3.3 Electronics

a. The system electronics must provide beam widths smaller than 1° at Nadir in at least the along track or across track direction, in the high frequency mode/range with across-track spacing increasing proportional to the beam steering angle.

b. The sonar ping rate must be chosen by the sonar itself based on depth and swath sector or by the set sonar operating range. The sonar must allow the manual changing of the parameter within the design operating ranges.

c. The system must use the IEEE 1588 Precise Time Protocol (PTP) or similar to maintain a coherent sense of time for all system components.

d. The sonar should have automated functionality (controlled within manufacturer's proprietary or third-party software) such as auto-ranging, gate tracking, slope tracking, pulse length, pulse type, power and gain, with the ability to manually override these settings if required.

e. The system must operate in water temperatures ranging -2° C to +30°C.

3.4 Swath Width/Beam Spacing:

a. The system must provide functionality in the acquisition software to control swath width and must have, at least, equidistant beam spacing.

b. The system must scale the beam spacing according to the set swath sector width so all beams are maintained.

3.5 Software/Computer

a. The sonar system must be supplied with software to support a computer-controlled interface for the acquisition and display of data. This software must be compatible with windows 7.

b. The sonar system must provide means of networking with a computer subsystem and ancillary equipment via Ethernet connection and serial port.

c. The system's time base (for synchronizing a computer subsystem and ancillary equipment) must be synchronized to Universal Time Coordinated (UTC) via Global Positioning System (GPS) 1 pulse per second (1 PPS).

4. Product Support

a. Contractor must provide technical support via telephone and/or email, within 24 hours of a request, 7 days a week, to provide responses to routine technical questions.

b. Contractor must provide all product manuals at time of delivery. (PDF format is preferred)

c. Replacements parts must be made available until 2025 (expected product life cycle).

d. A Training session on operation of sonar, controlling software and sonar configurations must be provided on-site (Unit 2, 100 Annacis Parkway, Delta, B.C.), at time of deployment for up to 7 staff.

e. Training in the operation and basic maintenance of the system for a minimum of 3 days of 8 hours in length (for a minimum required total of 24 hours) will be included.

f. Training to occur on a mutually agreed date and time between the contractor and Canada, but no later than 60 calendar days after the system has been delivered.

5. Optional - Extended Service and Maintenance Programs

An extended maintenance and service program on all associated hardware and software: licensed firmware and software updates, 7 days per week technical support available by telephone and email, and warranty coverage on sonar and processing unit.

Pricing to be provided by all bidders under Annex B for the optional 2, 3 and 5 year extended Maintenance and Service Programs. These extended maintenance and services programs are in addition to the included one-year maintenance service program to come standard with the system (see section 2.d.)

ANNEX C
TECHNICAL EVALUATION CRITERIA

PART 1: MANDATORY CRITERIA

The following is the minimum Government of Canada requirements for One (1) high resolution dual head multi beam echo sounder to be utilized by Public Works & Government Services Canada Pacific – Geomatics/Hydrographics to conduct high resolution bathymetric surveys.

The Bidder must provide proof and/or verification of the Mandatory Technical Criteria herein through supporting documentation such as technical brochures, certificate of qualifications and letters of authenticity from industry associations, as applicable. When supporting documentation is unavailable, the bidder must provide supporting narrative detailing how their bid proposal meets the applicable criterion.

NAME OF BIDDER: _____

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
1.1	The system is a distinct dual head transducer unit.			
1.2	A proposal of two distinct systems (to meet the specifications) will be given a failing grade.			
1.3	System proposed has been commercially available for the last 1 year from the solicitation closing date, and at least 5 systems must be in operation in the same operational context (IHO standards).			
1.4	Interferometric or Bathymetric Sidescan systems will be given a failing grade.			
1.5	All system components (hardware and software) must be under warranty for a minimum of 1 year.			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
1.6	The system complies with the Canadian Hydrographic Service standards for hydrographic surveys “Exclusive Order” requirements for depths of 1 to 20m, comply to International Hydrographic Organization Standards for Hydrographic Surveys (S-44) “Special Order” requirements for depths of 20m to 40m, and “Order 1a” requirements for depths over 40m.			
1.7	System must have multiple frequencies (i.e., dual frequency) or have a user selectable operating frequency to achieve a greater depth range.			
1.8	System must have an operating frequency range between 200 and 400 kHz.			
1.9	The system must provide bathymetric data across a swath, at minimum, 8 times the water depth in up to 100 meters, and do +/- 100 degrees roll stabilized swath in typical operating conditions.			
1.10	The system must include a bracket mounted sound velocity probe to supply sound speed at the sonar head depth to be utilized in real time.			
1.11	The system must do receive beam focusing.			
1.12	The system must ensure all components maintain a coherent sense of time with measurable latencies.			
1.13	The system must achieve the special order Feature Detection (1m3) of the Canadian Hydrographic Service standards for hydrographic surveys in water depths of 20 meters or less inside a +/- 100 degree swath sector with vessel speeds up to 8 knots.			
1.14	The system must provide imagery (acoustic backscatter intensity) data of the seafloor with a			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
	minimum range resolution of 5cm. The source levels and gain settings must be recorded with the data.			
1.15	Both the bathymetric data and imagery must be provided in a format which can be readily imported into CARIS HIPS/SIPS software package, via a full function of the conversion wizard.			
1.16	The system must accept and utilize vessel motion correctors (i.e., heave, pitch, roll, and heading) from an Applanix POS/MV320 or Wavemaster IMU.			
1.17	The system must accept and utilize sound speed values and profile correctors from AML and Valeport sensors. Any or all of these corrections may be applied through both the manufacturer's proprietary software package in real time and in post-processing through CARIS HIPS/SIPS. Motion corrections applied in the sonar software must be flagged within the data stream to indicate what specific corrections were made within the sonar software.			
1.18	The system must do roll-stabilization. It must do +/- 100 degrees swath sector with up to +/- 10 degrees of roll. The system must dynamically steer all beams based on the measured roll, not eliminate beams that roll outside of the desired sector.			
1.19	The system must be upgradeable to log acoustic backscatter of the water column (volume backscatter), to a separate file.			
1.20	The system must be compatible with Hypack Hysweep and QPS QINSy data logging			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
	software.			
1.21	Contractor must provide uncertainty propagation model for horizontal and vertical errors (or alternatively range and angle of reception errors).			
1.22	The system must supply, within its data stream, a beam quality indicator that can be captured in Post-Processing for Quality Control.			
1.23	If the system consists of separate transducer elements (i.e., 1 transmit element and 2 receive elements, 2 transmit elements and 2 receive elements, or 2 distinct elements), all sonar elements (transmitters and receivers) must fit on one bracket. A calibrated bracket must be supplied with the system that complies with the system alignment requirements.			
1.24	The system must suit installation aboard vessels as small as 7 meters in length.			
1.25	The system must be operable in a fixed mounted configuration, (i.e., hull mounted and pole mounted).			
1.26	The system (sonar head(s) and processor unit combined) must weigh no more than 100 kg in air.			
1.27	The systems transmit and receive arrays must be 0.5 meters or less in length.			
1.28	The system must be a flat receive array configuration.			
1.29	The system electronics must provide beam widths smaller than 1° at Nadir in at least the along track or across track direction, in the high frequency mode/range with across-track spacing increasing proportional to the beam steering angle.			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
1.30	The sonar ping rate must be chosen by the sonar itself based on depth and swath sector or by the set sonar operating range. The sonar must allow the manual changing of the parameter within the design operating ranges.			
1.31	The system must use the IEEE 1588 Precise Time Protocol (PTP) or similar to maintain a coherent sense of time for all system components.			
1.32	The sonar must have automated functionality (controlled within manufacturer's proprietary or third-party software) such as auto-ranging, gate tracking, slope tracking, pulse length, pulse type, power and gain, with the ability to manually override these settings if required.			
1.33	The system must operate in water temperatures ranging -2° C to +30°C.			
1.34	The system must provide functionality in the acquisition software to control swath width and must have, at least, equidistant beam spacing.			
1.35	The system must scale the beam spacing according to the set swath sector width so all beams are maintained.			
1.36	The sonar system must be supplied with software to support a computer-controlled interface for the acquisition and display of data. This software must be compatible with windows 7.			
1.37	The sonar system must provide means of networking with a computer subsystem and ancillary equipment via Ethernet connection and serial port.			
1.38	The system's time base (for synchronizing a computer subsystem and ancillary equipment)			

Item	Minimum Mandatory Requirements	Pass / Fail	Bid Ref Page #	Comments
	must be synchronized to Universal Time Coordinated (UTC) via Global Positioning System (GPS) 1 pulse per second (1 PPS).			
1.39	Contractor must provide technical support via telephone and/or email, within 24 hours of a request, 7 days a week, to provide responses to routine technical questions.			

PART 2: POINT – RATED CRITERIA

Item	Point Rated Requirements	Scoring and Evaluation Criteria	Bid Ref Page #	Raw Score (0-10)	Weight Factor (WF)	Total Points
2.1	The system is roll & pitch compensated or upgradeable for pitch compensation.	Pitch compensated – 3 points Upgradeable for pitch compensation – 2 points No pitch Compensation – 0 points			5	/15
2.2	The system is roll, pitch & yaw compensated or upgradeable for yaw compensation.	Yaw compensated – 3 points Upgradeable for yaw compensation – 2 points			5	/15

Item	Point Rated Requirements	Scoring and Evaluation Criteria	Bid Ref Page #	Raw Score (0-10)	Weight Factor (WF)	Total Points
		No yaw Compensation – 0 points				
2.3	The system capable of FM mode operation (frequency modulation).	FM mode capable – 2 points Upgradeable to FM mode – 1 point Not capable of FM mode operation – 0 points			10	/20
2.3.1	The system is capable of end user installation of firmware updates.	End user upgradeable – 2 points. Factory upgradeable – 1 point. System firmware is not upgradeable – 0 points.			5	/10
2.5	Operating instruction labels are clearly identified and printed in English.	2 pts for indicating labelling. 0 pts if labelling not indicated.			5	/10
2.6	Vendor should provide a warranty on all supplied components that covers all workmanship, quality, and performance defects.	Warranty of 3 or more years – 2 points 2 year warranty – 1 point			5	/10

Item	Point Rated Requirements	Scoring and Evaluation Criteria	Bid Ref Page #	Raw Score (0-10)	Weight Factor (WF)	Total Points
		Warranty of 1 year– 0 points				

Total number of points available: **80**

Total number of points scored: _____

Technical Evaluation Team

	Print	Sign	Date
Evaluator 1	_____	_____	_____
Evaluator 2	_____	_____	_____