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Bid Fax: (204) 983-0338

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 - Western Region
Room 100
167 Lombard Ave.
Winnipeg
Manitoba
R3B 0T6

Title - Sujet Marine and Terrestrial Scientific E	
Solicitation No. - N° de l'invitation A7100-173961/A	**Amendment No. - N° modif.** 004
Client Reference No. - N° de référence du client A7100-173961	**Date** 2018-04-17
GETS Reference No. - N° de référence de SEAG PW-$WPG-016-10478	
File No. - N° de dossier WPG-7-40212 (016)	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2018-04-27**	**Time Zone** **Fuseau horaire** Central Daylight Saving Time CDT
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☑ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Hall, Marlene	**Buyer Id - Id de l'acheteur** wpg016
Telephone No. - N° de téléphone (204) 230-0147 ( )	**FAX No. - N° de FAX** (204) 983-7796
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** Wills Transfer Ltd. 3100 Swansea Crescent Ottawa, ON. K1G 3W4 Canada c/o Claudette Weedmark	

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 **amendment # 004** is raised to respond to Supplier's questions and modify **Solicitation # A7100-173961/A**, dated 2018-02-19 as follows:

Supplier questions

Q1. Compliance Matrix, specification 3.1.3: Can you list the necessary depth ratings for the sensors? Or should the whole package be good to 2000m?

A1. Refer to specification 3.1.3 in the amended compliance matrix below.

Q2. Compliance matrix, specification 1.7: Is the following power specification acceptable:

- Current ≤ 6 amps, Voltage 90 – 125 VAC?
- Current ≤ 3 amps, Voltage 220-240 VAC?

A2. Refer to specification 1.7 in the amended compliance matrix below.

Modifications

1. Reference **Solicitation Closes**, page 1 of 1, and amend as follows:

Delete: Solicitation Closes at 02:00 PM on 2018-04-20.

Insert: **Solicitation Closes** at **02:00 PM on 2018-04-27.**

2. Reference **Annex "A", Compliance Matrix**, page 12 of 30, and amend as follows:

Delete : In its entirety

Insert : **Replace with the following**:

Compliance Matrix:

	Completion and submission of Mandatory Performance Specification is required to be considered responsive and for your offer to be given further consideration. **a.** Bidder must cross reference where in their technical offer, the performance specification is located. **b.** Provide the specification being offered which meets or exceeds and cross-reference as to where the supporting documentation is found within your proposal. If there is insufficient space in the table, assign SIR # (Supplementary Information Reference) and provide the appropriate details on a separate page in your offer. Where published supporting documentation is not available in the form of brochures, technical data sheets etc., prepare a written narrative complete with a detailed explanation of how its offer demonstrates compliance.	
	All work and materials herein specified must meet and maintain minimum Canadian and Provincial certification(s) and approval(s) as applicable by Industry Standards.	
Item	**Specifications**	Bidder Response: indicate how they meet the specifications addressed below/ cross-reference where this technical specification is indicated in their bid documentation
1.	**Laser Diffraction Particle Size Analyzer**	
1.1	Purpose: • Soil particle size analysis • Wet analysis (Dry analysis is not required)	
1.2	Dimensions: • Width: 800 mm ± 400 mm • Depth: 400 mm ± 300 mm • Height: 500 mm ± 200 mm	
1.3	Measurement Method: • Mie Scattering Theory	
1.4	Measurement range: • 0.02 µm to 2000 µm or greater	
1.5	Typical Measurement time: • < 120 sec, ± 60 sec	
1.6	Sample requirement: • Must be able to analysis samples at least (at minimum) 10 mg to 100 g	

1.7	**Power Supply:** • **Input Frequency: 60 Hz** • **Power supply: 120 V**	
1.8	Operating temperature: • At least 15 to 35 ˚C (59 to 95˚F)	
1.9	Compatible computer and peripherals • Desktop or laptop compatible with the equipment and software • Operating system: Windows 10 • Memory: minimum 4 GB RAM	
2	**GNSS system: Dual GNSS GPS Base/Rover receivers**	
2.1	Code differential GNSS positioning performance: • Horizontal: 0.25 + 1 ppm • Vertical 0.50 m + ppm	
2.2	Static GNSS surveying positioning performance: High-Precision Static: • Horizontal: 3 mm + 0.1 ppm • Vertical: 3.5 mm + 0.4 ppm Static and Fast Static: • Horizontal: 3 mm + 0.5 ppm • Vertical: 5 mm + 0.5 ppm	
2.3	Real Time Kinematic surveying: Single Baseline < 30 km • Horizontal: 8 mm + 1 ppm RMS • Vertical 15 mm + 1 ppm RMS Network RTK3: • Horizontal: 8 mm + 0.5 to 1 ppm • Vertical: 15 mm + 0.5 to 1 ppm	
2.4	Temperature: • Operating: at least -40˚C to +65˚C • Storage: at least -40˚C to +75˚C	
2.5	Components: • Transport Case • Base/Rover Receivers • Rechargeable Batteries • Dual Battery Chargers • Tripod (for the base station) • Antenna pole • Field controller – Data collector (+ software)	
2.6	Channels: • 120 to 440 channels	
2.7	GNSS Surveying • Real-Time (RTK/VRS) and Postprocessed	

2.8	Satellite Signals • GPS, Glonass, Galileo, Compass (BeiDou), SBAS	
2.9	Operational time: Field controller: • Minimum 30 hours Base and rover (operating time on internal battery): • Minimum 3 hours	
3	**Multi-channel CTD Logger**	
3.1	**Physical**	
3.1.1	Storage: Minimum 20,000,000 readings	
3.1.2	Clock accuracy: ±60 seconds per year	
3.1.3	**Depth rating: at least 0 to 200m – sensor dependent**	
3.1.4	Sampling rate: up to 12Hz, for better vertical resolution	
3.1.5	Cage: Circular, specifically engineered for deployment through ice through auger holes, pointed on both ends and with minimal snag points.	
3.1.6	Endurance: >40 hours of logging at maximum (12Hz) sampling rate.	
3.2	**Conductivity sensor**	
3.2.1	Non-pumped C cell, able to handle frozen environments without heating	
3.2.2	Range: 0-85 mS/cm	
3.2.3	Resolution: ~0.001 mS/cm	
3.2.4	Typical stability: ~0.010 mS/cm per year	
3.3	**Temperature sensor**	
3.3.1	Range: -5˚C to 35˚C	
3.3.2	Resolution: minimum 0.0001˚C	
3.3.3	Typical stability: ~0.002˚C per year	
3.4	**Pressure (Depth) sensor**	
3.4.1	Resolution: ~0.001% FS or 0.001 dbar w.i.g.	
3.4.2	Time constant: <0.01s	
3.4.3	Typical stability: ~0.05% FS per year	
3.5	**Dissolved Oxygen (DO) sensor**	
3.5.1	DO sensor based on phosphorescence	

3.5.2	Range: 0-200%	
3.5.3	Resolution 0.01 to 0.04%	
3.5.4	Thermistor response time: ~100 ms	
3.5.5	Fully integrated, able to provide a single data file with output in engineering units and synchronized to a single clock.	
3.6	**ChlA fluorescence sensor**	
3.6.1	Minimum detection limit: blue excitation 0.03 µg/L, red excitation 0.3µg/L	
3.6.2	Linear range: blue excitation 0-500 µg/L, red excitation >500µg/L	
3.6.3	Auto-ranging capability, allowing the best resolution possible in dynamic conditions	
3.6.4	Fully integrated, able to provide a single data file with output in engineering units and synchronized to a single clock	
3.7	**Photosynthetic Active Radiation (PAR) sensor**	
3.7.1	Sensitivity: ~4µA per 1000 µmol s^{-1} m^{-2} in water	
3.7.2	Response time: 10µs	
3.7.3	Operating temperature range -40˚C to 65˚C	
3.7.4	Temperature dependence: ±0.15% per ˚C maximum.	
3.7.5	Fully integrated, able to provide a single data file with output in engineering units and synchronized to a single clock	
3.8	**Turbidity sensor**	
3.8.1	Power-up transient period: <1 sec	
3.8.2	Sensing distance from windows: approx. <5 cm	
3.8.3	Auto-ranging capability, allowing the best resolution possible in dynamic conditions	
3.8.4	Fully integrated, able to provide a single data file with output in engineering units and synchronized to a single clock	
3.9	**Other**	
3.9.1	Wi-Fi communication for downloading, previewing, and archiving	

3.9.2	Ability to be accessed by laptop computers (Windows, Mac), as well as smartphones and tablets (Android, iOS)	
3.9.3	Non-proprietary file format	
3.9.4	Twist activation	

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.