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B3J 1T3
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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
Acquisitions
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 3C9

Title - Sujet ANALYZER	
Solicitation No. - N° de l'invitation 23420-140497/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client 23420-14-0497	Date 2014-02-04
GETS Reference No. - N° de référence de SEAG PW-\$HAL-219-9173	
File No. - N° de dossier HAL-3-71228 (219)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2014-02-13	
Time Zone Fuseau horaire Atlantic Standard Time AST	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Richard, Linda K.	Buyer Id - Id de l'acheteur hal219
Telephone No. - N° de téléphone (902) 496-5261 ()	FAX No. - N° de FAX (902) 496-5016
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

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

AMENDMENT 001

This amendment is issued in response to the following questions.

1. Closing Date

Delete: February 11, 2014 at 2:00 p.m. AST

Insert: February 13, 2014 at 2:00 p.m. AST

2. Annex A.2:

Question: What is meant with available measuring limits? Do you possibly size classed which could be generated in a certain size range?

Answer: We currently use manual sieves for particles >1mm. We are looking for optical technology to be able to incorporate the sand fraction along with this. The ideal instrument would be capable of measuring heterogeneous sediment material from +4 Phi to - Ph1 (>65um to what would pass through a 32mm sieve opening). Occasionally, there will be a requirement to measure what would pass through a larger < -5.5 sieve opening or <48mm. Minimum final merged data processing resolution for us is 1/5 phi MID POINT data sets.

3. Annex A.3:

Question: The mentioned reticle is from a specific supplier. We use, of course, other reticles and reference materials for certification of the measurement accuracy. We would, of course, use our reference calibration material for certification. Is that okay?

Answer: We want an instrument that requires the use of a calibration reticle to verify instrument operation within manufacturer's tolerances. We do not want to have to use reference calibration beads or samples to accomplish this as these are much too time consuming and expensive.

4. Annex A.5

Question: Why does the instrument need to have two cameras? This is only a description of one setup of possible image analyzers. Referring to the corresponding ISO standard 13322-2, there are also other setup possibilities of an image analyzer. As long as the offered instrument meets your primary requirement with the size range of 30um up to 30mm it shouldn't take affect how possible suppliers solve setup of the optical bench, or? The results in size and shape will be the same.

Answer: We are of the understanding that we require a two camera system for speed, more accuracy and reproducibility (one camera focuses on the larger particles, while the other can focus on the smaller ones). This allows us to characterize heterogeneous natural marine sediment samples comprised of very broad particle distributions. This was based on 2006 research carried out by our sedimentology lab in Ottawa. It would be irresponsible for us to accept a face value, a manufacturer's claim that a single camera

system can offer high resolution and better image quality than a two high dimensional camera system (could a two wheel driver vehicle offer the same versatility of a four wheel drive model?).

We do require an instrument that has an established track record of successfully analyzing natural sediment samples like those we routinely process in our lab. Unfortunately time will prevent us from sending samples to you for a comparative evaluation. Could you forward a reference list demonstrating the successful application of your instrument to these types of samples, as demonstrated through numerous published studies in the peer-reviewed scientific literature?

5. Annex A.8 and A.9

Question: These are specific setup details of only one supplier. Other suppliers have different solutions to keep the optics and measuring chamber free from contamination. As long as the requirement of "keeping the measurement chamber clean" is fulfilled it shouldn't matter how the supplier solves this, right?

Answer: Correct: As long as the measurement chamber and optics remain clean and dust-free through an automated and distortion-free process carried out simultaneously during the actual measurement phase. When the sample measurement is completed the chamber and optics of the instrument are immediately ready to receive another sample with no time lag.

6. Annex A.12 and A.15

Question: Both points consist out of the same sentence. What do you mean with "scan and measure each particle in 64 orientations? Particle or measurement orientations? Evaluation diameters? Those sentences were only taken 1:1 from the webpage from the Camsizer instrument.

Answer: We originally received the specifications from our Ottawa laboratory because we sought to seek a compatible instrument for particle size and shape characterization. Current 2006 year instrument with its microprocessor controller is capable of high resolution multi-dimensional scans evaluating 64 of the most critical directions. Can you offer same or better in 2014?

7. Under Annex A - Requirement Clause 3

Delete: Instrument must not require the use of calibration samples to verify it is operating within manufacturer's specified tolerances. An ISO-traceable certified calibration reticle with a particle size distribution of 60 microns to 14 mm is required. Calibration specs to be ± 0.1 micron per object.

Insert: Instrument must not require the use of calibration samples to verify it is operating within manufacturer's specified tolerances. An ISO-traceable certified calibration reticle with a particle size distribution of 60 microns to 14 mm or equivalent is required. Calibration specs to be ± 0.1 micron per object.

8. Under Annex A - Requirement Clause 5

Delete: Must use two high resolution cameras working simultaneously to ensure a wide dynamic range while capturing images of all particles in the sample.

Insert: Must use two high resolution cameras or equivalent, working simultaneously to characterize heterogeneous natural marine sediment samples comprised of very broad particle distributions. Please detail how you will achieve this in your proposal.

9. Under Annex A - Requirement Clause 2

Delete: In its entirety

Insert: Available measuring limits of 2.5 to 90,000 microns (90mm).

Instrument to be capable of measuring heterogeneous sediment material from +4 Phi to - Phi (>65um to what would pass through a 32mm sieve opening). Minimum final merged data processing resolution is 1/5 phi MID POINT data sets.

10. Under Annex A - Requirement Clause 15

Delete: In its entirety

11. Under Annex "C" - Mandatory Technical Cross-Reference

Delete: In its entirety

Insert: The following

ANNEX "C"**MANDATORY TECHNICAL CROSS-REFERENCE**

Bidders are requested to provide cross-reference below to identify the page(s) where each mandatory specification can be demonstrated in their technical documentation provided with their bid. Canada reserves the right to verify any and all information relating to mandatory requirements.

Reference Section	Technical Requirement	Cross Reference from Literature (ie: brochure title, page)
1	Particle size and shape measurement of particles from 0.030 mm to 30 mm.	
2	Available measuring limits of 2.5 to 90,000 microns (90mm). Instrument to be capable of measuring heterogeneous sediment material from +4 Phi to - Phi (>65um to what would pass through a 32mm sieve opening). Minimum final merged data processing resolution is 1/5 phi MID POINT data sets.	
3	Instrument must not require the use of calibration samples to verify it is operating within manufacturer's specified tolerances. An ISO-traceable certified calibration reticle with a particle size distribution of 60 microns to 14 m m or equivalent is required. Calibration specs to be ± 0.1 micron per object.	
4	Measurement principle to employ dynamic digital image processing for size and shape of solid particles.	
5	Vous devez utiliser deux caméras haute résolution ou équivalent, en travaillant simultanément à caractériser des échantillons de sédiments marins naturels hétérogènes constitués de	

	distributions de particules très larges. S'il vous plaît détail comment vous allez y parvenir votre proposition.	
6	Must acquire at least 60 images per second and real-time data calculation.	
7	Be able to analyze samples of 10 grams up to 1 Kilogram in a single run with no additional intervention from technician.	
8	Have a system to keep camera and light source clear of dust so when the sample measurement is completed the chamber optics of the instrument are ready to receive another sample with no time lag.	
9	Have a system to keep the measurement chamber clean and dust-free through an automated and distortion-free process carried out simultaneously during the actual measurement phase. When the sample measurement is completed, the chamber must be immediately ready to receive another sample with no time lag.	
10	Have an automatic speed-controlled vibratory feeder with feed hopper height control to introduce sample.	
11	1 to 3 minutes analysis time, depending on sample size.	
12	Scan and measure each particle in 64 orientations or equivalent.	
13	Provide a high resolution analysis in at least 1000 classes.	
14	Have the option to add an auto-sampler later on: the option must already exist.	
16	Include a computer and software to	

	control the instrument and present results in an acceptable formats	
17	Be interfaced and controlled through a software (included) featuring:	
	•CCD image displays and storage.	
	•Shape characteristics: sphericity, aspect ratio, convexity and symmetry.	
	•Capability to present results in graphical and tabular formats including cumulative and frequency percentage values.	
	•Have a fitting routine: algorithm for matching results to results from other	
	•measurement methods (i.e. sieving results).	
	•Automatic and configurable data export as ASCII and Excel readable file	
	•Provide median, mean and mode plus standard deviation of any part of the distribution.	

All other terms and conditions remain unchanged.