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

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Public Works and Government Services / Travaux publics et services gouvernementaux
Kingston Procurement
Des Acquisitions Kingston
86 Clarence Street, 2nd floor
Kingston
Ontario
K7L 1X3
Bid Fax: (613) 545-8067

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 / Travaux publics et services gouvernementaux
Kingston Procurement
Des Acquisitions Kingston
86 Clarence Street, 2nd floor
Kingston
Ontario
K7L 1X3

Title - Sujet Dynamic Light Scattering Instrument	
Solicitation No. - N° de l'invitation W0114-165235/A	**Amendment No. - N° modif.** 003
Client Reference No. - N° de référence du client W0114-16-5235	**Date** 2016-11-01
GETS Reference No. - N° de référence de SEAG PW-$KIN-710-6997	
File No. - N° de dossier KIN-5-44130 (710)	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2016-11-09**	**Time Zone** **Fuseau horaire** Eastern Standard Time EST
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☑	
Address Enquiries to: - Adresser toutes questions à: Dunphy, Ken	**Buyer Id - Id de l'acheteur** kin710
Telephone No. - N° de téléphone (613) 449-5116 ( )	**FAX No. - N° de FAX** (613) 545-8067
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**	

Canada

This amendment number 003 is being raised to extend the solicitation closing date and is being issued in response to Bidder’s questions and Canada’s responses and to amend the mandatory performance criteria specified in Annex A, Requirement, Part 4, Instrument specifications.

REFER: Solicitation Closes On 2016-11-03 at 02:00 PM

DELETE: In its entirety

INSERT: Solicitation Closes On 2016-11-09 at 02:00 PM

Bidders' Questions & Canada's Responses

Q1. Specification requested:
>170° backscatter angle for nanomaterials under 20 nm; 90° angle for optimal size measurements
Our proposed model uses two angles; 173° backscatter and 13° forward scatter. Utilization of 90 degree angle greatly diminishes the size range and concentration over which DLS is able to size and is certainly not optimal. Please let us know if this configuration is acceptable.

A1. 90° angle was selected to avoid bias towards large size in the sample analysis. 90° is also the most common technique and allows a direct comparison with published results. A combination of 13°, 90° and 173° degrees would be acceptable.

Q2. Specification requested:
Temperature range from -5°C to 90°C to cover the range of temperatures for the specific applications listed in (1). Our proposed model has a temperature range of 0°C to 90°C. From the description of the work proposed it is unlikely that the nanomaterials being developed will need to be measured at subzero temperatures. Please let us know if this configuration is acceptable.

A2. Sub-zero temperature range is a very important part of our study where the splitting of the water dynamics can affect the interaction among macromolecular chains and is needed for the instrument.

Q3. Specification requested:
Sample cells (as described in (3)); Volume ranging from 10 µl to 1ml. Our proposed model has a minimum cell volume of 12 µl. The DLS technique is non-invasive and sample may be collected after measurement. Please let us know if this configuration is acceptable.

A3. The small increase in cell volume is acceptable and should not affect greatly the use of the instrument.

Q4. Specification requested:
15° angle for optimal zeta potential measurements. Our proposed model uses 17° for zeta potential measurements. It is unclear that 15° is optimal for zeta potential measurement. Please let us know if this configuration is acceptable.

A4.The 15° angle was shown to reduce the artificial broadening due to particle size effect. The bidder would need to show that the same effect is observed at 17° in order for this configuration to be acceptable.

Q5. Specification requested:
Life time electrode. Our proposed model has the option of both disposable (but reusable) zeta potential cell with integrated electrodes and a reusable dip cell with a lifetime electrode. All electrodes will require periodic cleaning over time to maintain them. Please let us know if this configuration is acceptable.

A5.This configuration is acceptable within the requested specifications. Disposable cells must present a cost <$ 2 for a reasonable annual cost of the instrument.

Q6. Specification requested:
True Phase Analysis Light Scattering measurements for repeated measurements on fragile assembly and biological samples such as proteins, RNA, self-assembly of polymers, samples of high salinity (effect of ionic strength) and high viscosity. Our proposed model uses the patented M3-PALS (Mixed Mode Measurement – Phase Analysis Light Scattering) for signal processing of zeta potential measurements. Please indicate if other implementations of PALS are acceptable.

A6. PALS was selected for these characterization because of its superior performance for repeated measurement on sensitive and delicate materials as well as to ensure reliable characterization on high salinity and high viscosity samples. In addition, usually M3-PALS analysis requires cells with gold plated electrodes that are quite expensive and not easy to clean for accurate measurements for subsequent analysis. Therefore this technique was not selected for the desired instrument.

Q7. Specification requested:
Low voltage (2 volts) to avoid sample denaturation. Our proposed model uses a higher voltage (2.5V and higher) for zeta potential measurements. The cause of sample denaturation is not high voltage; it is direct contact of the sample with the electrode material that causes denaturation. We have developed a barrier technique to prevent direct contact of the sample material with the electrode material to allow measurement of zeta potential without denaturation of the sample.

A7. The samples that will be analysed by DLS have been tested with voltage higher than 2V without direct contact with other techniques, the self-assembly of the material was disrupted by high voltage and the structure obtained was altered. Therefore high voltage is not suitable for this application.

Q8. Specification requested:
Built-in pH meter with calibration software (range of pH 2 to 12)

Our proposed model does not incorporate a pH meter directly into the instrument. The pH meter is incorporated into the autotitrator.

A8. This configuration would not cause any loss of accuracy and is acceptable for the proposed instrument.

Q9. I noticed that the table shown under section Pricing Basis B on page 18 of 24 of the bid document does not show room for discounts (educational, in-king,…): does this mean that, contrarily to Pricing Basis A, we are to provide our offer without showing these discount line items?

A9. That's correct. Pricing basis B should reflect your company's best overall price inclusive of any discounts that is being offered.

Q10. If we intend to offer special discounts above those offered in the education, in-kind contributions and normal discounts, do we enter that amount along with the normal discount onto the normal discount line?

A10. Yes, if you intend to offer special discounts above those offered in the education, in-kind contributions and normal discounts, please add the special discount along with the normal discount and enter the resulting total onto the normal discount line.

Q11. I went through the links for the certifications and (apart from the forms 1 to 3 shown on pages 20 to 22 of 24 in the bid document) I did not see another certification document to be filled: did I miss a document or do I simply need to state that our company is eligible and that our company is not on the Ineligibility and Suspension Policy?

A11. Please ensure that the certifications required under Part 5 CERTIFICATIONS AND ADDITIONAL INFORMATION of the Request for Proposal are completed along with Annex D, Bidder Forms as well as Annex C, if applicable.

3) Description of the different essential technical characteristics

The different necessary operating modes are described below:

DELETE

a) Particle measurements:

Sample cells
- Volume ranging from 10 µl to 1ml

b) Zeta Potential measurements:

Built-in pH meter with calibration software (range of pH 2 to 12).

REPLACE WITH

a) Particle measurements:

Sample cells
- Volume ranging from 10 µl to 1ml (12 µl to 1ml would be acceptable)

b) Zeta Potential measurements:

Built-in pH meter with calibration software (range of pH 2 to 12).

4) Instrument specifications

DELETE

Specifications	Value
Particle measurements	Range of measurements: <1nm- 50µm
	Precision of+/-1% for size measurements
	>170° backscatter angle for nanomaterials under 20 nm
	90° angle for optimal size measurements
	Temperature range from -5°C to 90°C to cover the range of temperatures for the specific applications listed in (1)
	Temperature stability 0.1°C
	pH range from pH2 to pH12
	Autotitrator to adjust the pH while performing pH dependent size measurements analysis
	Digital correlator (as described in (3))
	Sample cells (as described in (3))
	Ability to measure changes in size of aggregation with time, temperature and time/temperature combined
	Dust Filtering algorithm
Zeta Potential measurements	Range of measurements: 1nm- 50µm
	15° angle for optimal zeta potential measurements
	Temperature range from -5°C to 90°C to cover the range of temperatures for the specific applications listed in (1)
	pH range from pH2 to pH12
	Life time electrode
	True Phase Analysis Light Scattering measurements for repeated measurements on fragile assembly and biological samples such as proteins, RNA, self-assembly of polymers, samples of high salinity (effect of ionic strength) and high viscosity.
	Reusable electrode without proprietary cells, can be used with non-specific disposable cell for cost effective experiments.
	Low voltage (2 volts) to avoid sample denaturation
	Avalanche Photodiode (APD) detector for high sensitivity
	Built-in pH meter with calibration software (range of pH 2 to 12)
	Isoelectric point determination capability
	Automatic compensation for thermal drifting and particle sedimentation effects
Training	Training for maximum of 6 people on all provided equipment/software

REPLACE WITH

Specifications	Value
Particle measurements	Range of measurements: <1nm- 50µm
	Precision of+/-1% for size measurements
	>170° backscatter angle for nanomaterials under 20 nm
	90° angle for optimal size measurements
	Temperature range from -5°C to 90°C to cover the range of temperatures for the specific applications listed in (1)
	Temperature stability 0.1°C
	pH range from pH2 to pH12
	Autotitrator to adjust the pH while performing pH dependent size measurements analysis
	Digital correlator (as described in (3))
	Sample cells (as described in (3))
	Ability to measure changes in size of aggregation with time, temperature and time/temperature combined
	Dust Filtering algorithm
Zeta Potential measurements	Range of measurements: 1nm- 50µm
	15° angle for optimal zeta potential measurements
	Temperature range from -5°C to 90°C to cover the range of temperatures for the specific applications listed in (1)
	pH range from pH2 to pH12
	Life time electrode
	True Phase Analysis Light Scattering measurements for repeated measurements on fragile assembly and biological samples such as proteins, RNA, self-assembly of polymers, samples of high salinity (effect of ionic strength) and high viscosity.
	Reusable electrode without proprietary cells, can be used with non-specific disposable cell for cost effective experiments.
	Low voltage (2 volts) to avoid sample denaturation
	Avalanche Photodiode (APD) detector for high sensitivity
	Built-in pH meter with calibration software pH meter is incorporated into the autotitrator (range of pH 2 to 12)
	Isoelectric point determination capability
	Automatic compensation for thermal drifting and particle sedimentation effects
Training	Training for maximum of 6 people on all provided equipment/software

ALL OTHER TERMS AND CONDITIONS OF THIS SOLICITATION REMAIN UNCHANGED.