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Vancouver, BC V6Z 0B9

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
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Issuing Office - Bureau de distribution
Public Works and Government Services Canada -
Pacific Region
219 - 800 Burrard Street
800, rue Burrard, pièce 219
Vancouver, BC V6Z 0B9

Title - Sujet Si Mineral xray Analyser	
Solicitation No. - N° de l'invitation 01555-160354/A	Amendment No. - N° modif. 002
Client Reference No. - N° de référence du client 01555-160354	Date 2015-11-27
GETS Reference No. - N° de référence de SEAG PW-\$VAN-532-7644	
File No. - N° de dossier VAN-5-38232 (532)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-12-08	Time Zone Fuseau horaire Pacific Standard Time PST
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: Takasaki, Alan H.	Buyer Id - Id de l'acheteur van532
Telephone No. - N° de téléphone (604) 775-7605 ()	FAX No. - N° de FAX (604) 775-7526
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

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Instructions: Voir aux présentes

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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

Solicitation No. 01555-16354/A

The following questions and answers are for clarification purposes.

If due to the clarification an amendment to the solicitation is required, the amendment will be stated herein as "the above referenced solicitation is amended as follows":

Annex A - Requirement

01 The analyzer must have a Na to U elemental range for plant material with a minimum detection limit of 0.1% to 0.01%

QUESTION 1:

How necessary is Na? Even in the best of systems, edXRF isn't very reliable for Na. If we remove this element from the requirement, there would be benefits associated with greater flexibility in configuration. XRF is unable to test the noble gases, instead of providing a range, could we have a list of elements that are required?

RESPONSE 1:

As the equipment will be used by several research teams and be multipurpose, it should have a powerful detection limit for the analysis of various types of elements and samples (e.g. used for plant materials, soil and organic matter: measurements of heavy metals coming from manures, composts or other organic amendments as well as micronutrients in fruits). The X ray analyzer must have a detection limit of:

Si ≤0.01%	Mo ≤0.001%
Mg ≤0.06%	Se ≤0.001%
Ca ≤0.005%	Ti ≤0.001%
K ≤0.005%	Ag ≤0.001%
P ≤0.02%	Al ≤0.03%
S ≤0.005%	Cd ≤0.001%
Cl ≤0.003%	Pb ≤0.001%
Mn ≤0.006%	Ni ≤0.003%
Fe ≤0.004%	Co ≤0.002%
Cu ≤0.002%	As ≤0.001%
Zn ≤0.001%	Cr ≤0.002%

.02 The analyzer must comprise of a 50 kV 4W Ag anode end window transmission X-ray Tube

QUESTION 2:

If the system is able to detect and perform as required, why is the tube configuration specified, unless it was another lock-out spec.

RESPONSE 2:

This specification is generally needed for a higher detection limit of a large group of elements. Because, the analyzer will be used for multipurpose and need a minimum detection limit of 0.1% to 0.001%, this specification has been determined as a minimum requirement. The analyzer X-ray that will have the smallest detection limits for different groups of elements previously mentioned will be the one that will be able to fulfill our multiple research needs.

A maximum power setting of 40 kV could also be acceptable if it works with the required 4 to 6 filters (#3) and if the minimum detection ranges, described previously, are respected.

.03 The analyzer must have 6 X-ray tube filter positions

QUESTION 3:

If the system is able to detect and perform as required, why is the filter configuration specified, unless it was another lock-out spec.

RESPONSE 3:

The higher is the number of filters, the better will be the detection range (smaller detection limit) for a specific group of elements.

Different filters are needed to get a good resolution for a specific group of elements; they are specific to different groups of elements. By having 6 filters, a higher detection limit can be reached for specific elements. The minimum number of filters required is 4.

.07 The analyzer must be equipped with a single position sample spinner

QUESTION 4:

With proper sample prep, the sample spinner does very little to improve accuracy. Could this be removed?

RESPONSE 4:

This is to improve the accuracy of the measure considering that a significant variability can occur within the samples.

It is not always possible to prepare a perfect uniform sample. As this analyzer will be used for multipurpose and because samples may have a significant heterogeneity, this requirement is needed to improve the measurement accuracy.

Consequently, removing this requirement could have an impact on the accuracy of our measurements and results.

.08 The analyzer must perform the sample analysis within a regulated helium purged chamber allowing a minimum detection limit of 0.1% to 0.01%

QUESTION 5:

Solicitation No. - N° de l'invitation
01555-160354/A
Client Ref. No. - N° de réf. du client
01555-160354

Amd. No. - N° de la modif.
002
File No. - N° du dossier
VAN-5-38232

Buyer ID - Id de l'acheteur
VAN532
CCC No./N° CCC - FMS No./N° VME

If the system is able to detect and perform as required, does it matter how the sample is tested in helium, a vacuum or in argon, or even regular air?

RESPONSE 5:

A helium system will be needed in order to enhance the detected concentration (lower limits of detection) of certain elements such as Mg, Al, P, S. Low detection limits of these elements are requested for our experiments.

Solicitation No. 01555-16354/A

The above referenced solicitation is amended as follows

Annex A and Form B, .01 of 1.1 Analyzer

Delete: The analyzer must have a Na to U elemental range for plant material with a minimum detection limit of 0.1% to 0.01%.

Insert: The analyzer must have a Mg to U elemental range for plant material with a minimum detection limit of 0.1% to 0.001%.

As the equipment will be used by several research teams and be multipurpose, it should have a powerful detection limit for the analysis of various types of elements and samples (e.g. used for plant materials, soil and organic matter: measurements of heavy metals coming from manures, composts or other organic amendments as well as micronutrients in fruits). The X ray analyzer must have a detection limit of:

Si ≤0.01%	Mo ≤0.001%
Mg ≤0.06%	Se ≤0.001%
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Cl ≤0.003%	Pb ≤0.001%
Mn ≤0.006%	Ni ≤0.003%
Fe ≤0.004%	Co ≤0.002%
Cu ≤0.002%	As ≤0.001%
Zn ≤0.001%	Cr ≤0.002%

Annex A and Form B - .02 of 1.1 Analyzer

Delete: The analyzer must comprise of a 50 kV 4W Ag anode end window transmission X-ray tube

Insert: The analyzer must comprise of a 50 kV 4W Ag anode end window transmission X-ray tube

A maximum power setting of 40 kV could also be acceptable if it works with the required 4 to 6 filters (#3) and if the minimum detection ranges, described previously, are respected.

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VAN532
CCC No./N° CCC - FMS No./N° VME

Annex A and Form B, 03 of 1.1 Analyzer

Delete: The analyzer must have 6 X-ray tube filter positions

Insert: The analyzer must have a minimum of 4 X-ray tube filter positions

Annex A and Form B, .08 of 1.1 Analyzer

Delete: The analyzer must perform the sample analysis within a regulated helium purged chamber allowing a minimum detection limit of 0.1% to 0.01%

Insert: The analyzer must perform the sample analysis within a regulated helium purged chamber allowing a minimum detection limit of 0.1% to 0.001%

All other terms and conditions of the above referenced Solicitation remain unchanged.

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Bid Receiving
Public Works & Government Services Canada
219 - 800 BURRARD STREET
VANCOUVER BC V6Z 0B9

Solicitation No. : 01555-160354/A A002

Solicitation Closes at: 2:00 PM PT
On December 08, 2015

Réception des soumissions
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La réception des soumissions prend fin le: 08 décembre 2015
à: 14:00 PT
