



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Public Works and Government Services Canada
ATB Place North Tower
10025 Jasper Ave./10025 ave. Jasper
5th floor/5e étage
Edmonton
Alberta
T5J 1S6
Bid Fax: (780) 497-3510

**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
ATB Place North Tower
10025 Jasper Ave./10025 ave Jasper
5th floor/5e étage
Edmonton
Alberta
T5J 1S6

Title - Sujet Spectrometer	
Solicitation No. - N° de l'invitation 23137-190149/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client 23137-190149	Date 2018-09-05
GETS Reference No. - N° de référence de SEAG PW-\$EDM-064-11419	
File No. - N° de dossier EDM-8-41056 (064)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-09-17	Time Zone Fuseau horaire Mountain Daylight Saving Time MDT
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: Scott, Dallas	Buyer Id - Id de l'acheteur edm064
Telephone No. - N° de téléphone (780) 224-7200 ()	FAX No. - N° de FAX (780) 497-3510
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

This amendment is used to address solicitation 23137-190149/A as follows:

1) Questions and Answers

Question #1: What are the required low and high detection limits for the selected elements in plant, soil and water matrices that need to be reported?

Response #1: We are a Research Facility and require to go as low as achievably possible without the need for hydride generation. We require a system with large dynamic range. Some DLs were mentioned in the Tender document.

Question #2: Are samples analyzed by any specific method? (Example: USEPA 6010d).

Response #2: No.

Question #3: Why is there the need to control addition of Oxygen usually used for hydrocarbon analysis?

Response #3: The resulting solutions from plant and soil digests still contain a residual amount of carbon. Bleeding a small amount of Oxygen into the plasma reduces the carbon emission bands resulting in lower detection limits for other elements, especially the heavy metals.

Question #4: Will an instrument that meets your required analysis but does not use the specified type of polychromator be acceptable?

Response #4: Another type of polychromator would be acceptable permitting that it meets requirements in Annex "A", Requirement and Annex "C", Evaluation Criteria

2) Revise Annex "A", Requirement

DELETE: ANNEX "A", REQUIREMENT in its entirety

INSERT: ANNEX "A", REQUIREMENT (REVISED 2018-09-05), attached

3) Revise Annex "C", Evaluation Criteria

DELETE: ANNEX "C", EVALUATION CRITERIA in its entirety

INSERT: ANNEX "C", EVALUATION CRITERIA (REVISED 2018-09-05), attached

If your proposal has already been submitted, you may wish to revise it. Revisions to your proposal must be submitted in a sealed envelope with the contents clearly identified on the outside of the envelope. Any revisions to your proposal must be received by the Bid Receiving Unit on or before the time and date stated on page 1 of this document. Any revisions to your proposal received after the closing date and time will be considered late and will be returned unopened.

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME AND ARE IN FULL EFFECT

ANNEX "A"

REQUIREMENT

(REVISED 2018-09-05)

1. BACKGROUND

The Northern Forestry Centre Analytical Services Laboratory (NoFC ASL) is looking to replace their Inductively Coupled Plasma Optical Emission Spectrometer (ICP OES) system that has been in use for close to 20 years and requires replacement. The new system must be a bench top model that will be used for both low and high level detection of elements in plant, soil and water matrices.

Many of the samples analyzed by the new system will be soil extracts and therefore it is necessary that the system be capable of handling samples with up to 30% total dissolved solids without loss of sensitivity or accuracy. To maintain high sample throughput it is important that these samples do not require dilution prior to analysis.

The new ICP OES will also be utilized for testing surface and subsurface waters, environmental samples and nutrient assessments for the purpose of supporting research at the Northern Forestry Centre.

2. REQUIREMENT

The Northern Forestry Centre Analytical Services Laboratory (NoFC ASL) has a requirement for the supply, delivery, installation and training of one (1) Inductively Coupled Plasma Optical Emission Spectrometer (ICP OES) system including components and accessories. There is no requirement for an auto sampler to be supplied with the system.

3. SYSTEM

The automatic simultaneous ICP OES must have a plasma viewing window for operators to view the plasma both radially and axially. As well it must have software controlled plasma ignition and automatic shutdown and software control of plasma, nebulizer and auxiliary gases as well as provide for control of additional gas (i.e. oxygen).

It is important for different method applications that the sample introduction system be an open architecture so that it will allow for the interchanging of nebulizers, spray chambers and torch.

The system must have a Polychromator design that consists of one optic (no add on) and meets the following criteria:

- (i) The system must be capable of maintaining constant resolution of 8.5 picometers from 130 to 340 nm
- (ii) The system must have a wavelength range of 130 to 770 nm
- (iii) The system must be capable of detecting limits without the need for hydride generation (see Table)

Limits of Detection

	Wavelength (nm)	LOD (ug/L)
Al	167.076	0.05
As	189.042	1.0
Cl	134.724	30
Hg	184.950	0.6
P	177.495	0.85
Pb	168.215	0.95
S	180.731	2.0
Se	196.090	1.3
Zn	213.856	0.055

The detector(s) must have a dynamic range of up to nine (9) orders of magnitude of concentration range and have full spectrum access.

The RF generator must be a solid state design and able to tolerate a change from aqueous samples to volatile organic solvents without affecting plasma stability.

The system software must come preloaded on a PC with Windows 10 operating system. The software must also be supplied on CD or USB. The software must be capable of providing statistical data for each spectral scan and allow for data export to MS Excel 2016. The software must contain a library of analytical lines which have all the major wavelengths for all elements.

4. DELIVERY

The Contractor must contact the Project Authority a minimum of seven (7) calendar days prior to delivery to allow for sufficient time to prepare designated space and arrange for necessary unloading equipment.

5. INSTALLATION

On-site Installation of the ICP OES must be performed by a qualified service technician.

6. TRAINING

On-site user training course for at least two (2) consecutive days must be included for up to two (2) operators. All costs associated with the on-site training must be included in the price.

Training must be conducted following setup and installation of the system.

7. WARRANTY AND SERVICE

The Contractor must include a minimum of one (1) year parts and labour warranty that provides both on-site as well as phone support.

The warranty must include the instrument and parts, computer system, software, interfaces and cables.

Service must include: technical support; technical phone support; online support; and support via an email-back document system.

A qualified service technician must reply by phone within twenty-four (24) hours of a call and / or an on-site repair / replacement of components within a forty-eight (48) hour period, five (5) days a week.

Trained application consultants must be available to discuss customized applications support. The application consultant must be capable of on-site visits at the contractor's expense for a period of one (1) year. The one (1) year period will commence on the day of instrument delivery and acceptance. Application consultants must be available for contact by phone for the lifetime of the instrument.

The Contractor must provide all software updates and new releases for a period of minimum one (1) year following the acceptance, at no additional cost.

ANNEX "C"

EVALUATION CRITERIA

(REVISED 2018-09-05)

1. DELIVERY

All deliverables identified in Annex "A", Requirement (supply, delivery, installation, and training) must be completed on or before 2018-11-30.

PLEASE INDICATE:
(TO BE COMPLETED BY BIDDER)

- ☐ Meet Delivery Requirement
OR
☐ Unable to Meet Delivery Requirement

PLEASE INDICATE:
(TO BE COMPLETED BY BIDDER)

The best delivery date for all deliverables identified in Annex "A", Requirement that can be offered is _____ business days / calendar days / weeks / months after Contract award.

2. MINIMUM MANDATORY PERFORMANCE SPECIFICATIONS

COMPLIANCE MATRIX – MINIMUM MANDATORY PERFORMANCE SPECIFICATIONS

A complete list of the minimum mandatory performance specifications are detailed below in the "Compliance Matrix". Bidders are to clearly demonstrate compliance with each mandatory specification.

1. Bidders **must** show compliance by addressing each performance specification in the Compliance Matrix, whether the product offered "meets" or "does not meet".
2. It is requested that supporting technical documentation, including but not limited to, specification sheets, technical brochures, photographs or illustrations be provided with the bid at solicitation close and be cross-referenced on the Compliance Matrix for each performance specification to outline where in the supporting technical documentation it demonstrates compliance. It is the Bidders responsibility to ensure that the submitted supporting technical documentation provides detail to prove that the proposed product(s) meet the requirements of the Performance Specification. If published supporting technical document is not available, the Bidder should prepare a written narrative complete with a detailed explanation of how its bid demonstrates technical compliance.
3. If the supporting documentation referenced above has not been provided at bid closing, the Contracting Authority will notify the Bidder that they must provide supporting documentation within two (2) business days following notification. Failure to comply with the request of the Contracting Authority within that time period, will deem the bid non-responsive and the bid will be given no further consideration.
4. Bidders must address any concerns with the performance specifications in written detail to the Contracting Authority before bid closing as outlined in the solicitation document.
5. Failure to meet each performance specification will result in the bid being deemed non-responsive, and be given no further consideration.

COMPLIANCE MATRIX – MINIMUM MANDATORY PERFORMANCE SPECIFICATIONS:

REQUIREMENT	MANUFACTURER OFFERED	MODEL NUMBER OFFERED
Inductively Coupled Plasma Optical Emission Spectrometer system with components and accessories		

ITEM #	PERFORMANCE SPECIFICATION	STATUS (D) Desirable (M) Mandatory	PERFORMANCE SPECIFICATION MET? Indicate either Yes/No	PERFORMANCE SPECIFICATION OFFERED Bidder <u>should</u> indicate how they meet the performance specification by recording this information in this column	CROSS REFERENCE Bidders should cross-reference where this performance specification is indicated in their supporting documents.
1)	General				
a)	System must be an automatic simultaneous measuring optical emission spectrometer with an inductively coupled plasma excitation source	M			
b)	System must have the ability for both radial and axial viewing of the plasma, plasma must be viewable to the operator through a viewing window	M			
c)	Plasma ignition must be software controlled and must be capable to shut down automatically after a run	M			
d)	Published comprehensive user manual (English and French) must be included	M			
e)	System cooled without need for chiller	D			
2)	Sample Introduction				
a)	Instrument must be able to operate with solutions containing up to 30% total dissolved solids without dilution or without loss of sensitivity or accuracy	M			

b)	Sample introduction system must be open architecture to allow for interchanging of nebulizers, spray chambers, and torch	M			
c)	System must have demountable torch	M			
d)	System must include a 4-channel, 12 roller peristaltic pump	M			
e)	The computer must be capable of controlling the plasma, nebulizer and auxiliary gases as well as provide for control of additional gas (i.e. oxygen)	M			
3) Auto Sampler					
a)	System and software must be 100% compatible with existing ESI 4DX auto sampler	M			
4) Optics					
a)	The system must have a Polychromator design that consists of one optic (no add on)	M			
b)	The system must be capable of maintaining constant resolution of 8.5 picometers from 130 to 340 nm	M			
c)	The system must have a wavelength range of 130 to 770 nm	M			
d)	The system must be capable of detecting limits without the need for hydride generation (see "Limits of Detection" table in Annex "A", Requirement)	M			
5) Detector					
a)	Detector(s) must consist of charged coupled devices or equivalent for converting various wavelengths into digital signal	M			
b)	Detector(s) must have a dynamic range up to 9 orders of magnitude of concentration range	M			

c)	Must have full spectrum access and capability of storing complete spectra in a data file	M			
d)	Must be thermally stable	M			
6)	Radio Frequency Signal (RF) Generator				
a)	RF generator must be a solid state design.	M			
b)	RF generator power output must range up to 1500 watts and must be fully controlled by the software	M			
c)	Must have power efficiency of minimum 80% and output stability of minimum 0.1%	M			
e)	RF generator must be able to tolerate change from volatile organic solvents to aqueous samples without affecting plasma stability, even if highly volatile organic solvents are introduced	M			
7)	Software and Personal Computer (PC)				
a)	PC supplied must have system software preinstalled	M			
b)	System software must be supplied on CD or USB	M			
c)	PC supplied must have Windows 10 preinstalled	M			
d)	PC supplied must include a wireless network adapter card	M			
e)	Laser colour printer must be supplied	M			
f)	Software must allow for full control of offered ICP OES and ESI DX 4 systems	M			
g)	Software must provide statistical data for each spectral scan	M			
h)	Software must allow for data export to Microsoft Excel 2016 and allow for connectivity to LIMS	M			

Solicitation No. - N° de l'invitation
23137-190149/A
Client Ref. No. - N° de réf. du client
23137-190149

Amd. No. - N° de la modif.
001
File No. - N° du dossier
EDM-8-41056

Buyer ID - Id de l'acheteur
EDM064
CCC No./N° CCC - FMS No./N° VME

i)	Software must contain a library of analytical lines which have all the major wavelengths for all elements	M			
j)	Software must allow for cloning of developed methods and have method filters to enable the user to look at specific elements within a method	M			