

MINISTRY OF FISHERIES

**STATE MINISTRY OF ORNAMENTAL FISH, INLAND FISH, & PRAWN
FARMING, FISHERY HARBOUR DEVELOPMENT, MULTYDAY FISHING
ACTIVITIES AND EXPORTS**

NATIONAL AQUATIC RESOURCES RESEARCH AND DEVELOPMENT AGENCY OF SRI LANKA (NARA)

FOR

**Procurement of the Supply, Delivery, Installation, Commissioning and Training
Inductively Coupled Plasma Mass Spectrometer Coupled with Ion (Anion/Cation)
Chromatography System.**

TENDER No : P&S/IPHT/2021/155/RL/TEN65

CHAIRMAN

Department Procurement Committee

National Aquatic Resources Research & Development Agency

Crow Island, Mattkkuliya,

Colombo-15.

Sri Lanka.

19 July 2021

**STATE MINISTRY OF ORNAMENTAL FISH, INLAND FISH, & PRAWN FARMING,
FISHERY HARBOUR DEVELOPMENT, MULTYDAY FISHING ACTIVITIES AND
EXPORTS**

**National Aquatic Resources Research & Development Agency
(NARA)**

TENDER No : P&S/IPHT/2021/155/RL/TEN65

DOCUMENTATION CERTIFICATE

**Description of the
Procurement**

: Procurement of the Supply, Delivery, Installation, Commissioning
and Training Inductively Coupled Plasma Mass Spectrometer
Coupled with Ion (Anion/Cation) Chromatography System.

Issued to

:

Address

:

.....

.....

Telephone Number

:

Fax Number

:

E-mail Address

:

**Tender Fee and
Receipt Number**

:

.....
Authorized Officer

.....
(Seal)

Date of issuing 2021

Time a.m. / p.m.



Ministry of Fisheries
State Ministry of Ornamental Fish, Inland Fish & Prawn Farming,
Fishery Harbor Development, Multiday Fishing Activities and Fish
Exports



National Aquatic Resources Research & Development Agency
(NARA)

Invitation for Bids
Procurement Notice

01. The Chairman, Department Procurement Committee of the National Aquatic Resources Research & Development Agency (NARA) of Sri Lanka invites sealed bids from qualified and eligible bidders for the Procurement of the Supply, Delivery, Installation, Commissioning and Training Inductively Coupled Plasma Mass Spectrometer Coupled with Ion (Anion/Cation) Chromatography System.

Contract No & Name of Procurement	Source of Funds	Bid Security (SLR) and validity	Non Refundable Bid Fee (SLR)	Closing Date & Time of Issuing of Bidding Documents	Closing Date & Time of Receiving of Bid	Pre Bid Meeting Date, time & Venue
P&S/IPHT/2021/155 /RL/TEN Procurement of the Supply, Delivery, Installation, Commissioning and Training Inductively Coupled Plasma Mass Spectrometer Coupled with Ion (Anion/Cation) Chromatography System	GOSL	1,000,000.00 121 Days (until 08th December 2021)	15,000.00	09.08.2021 at 3.00 p.m.	10.08.2021 at 1.00 p.m.	30.07.2021 at 1.00 p.m. At Auditorium in address mention below.

02. Bidding will be conducted through National Competitive Bidding Procedure.
03. All eligible bidders may obtain further information from Procurement Officer (Tel/Fax - 0112-529717, purchasingp@nara.ac.lk) and www.nara.ac.lk and inspect the bidding documents free of charge at the following address during office hours from 9.00 a.m. to 3.00 p.m. from **19th July 2021 to 09th August 2021**.
04. **A complete set of Bidding Documents may be purchased by any interested eligible bidder on the submission of a written application to the following address and upon payment of a non-refundable bid fee in cash during the period as indicated above**
05. Bids shall be valid for **Ninety-One (91) days** (till 08th November 2021) from the deadline of bid submission.

06. **All bids must be accompanied by a bid security** issued by a commercial bank approved by Central Bank of Sri Lanka in favor of the “Director General/NARA” as specified in the Bid Documents.
07. Bids shall be delivered in duplicate to the address of **Chairman (Department Procurement Committee), National Aquatic Resources Research & Development Agency (NARA), Tender Box-01, Crow Island, Mattkkuliya, Colombo-15 on or before 1.00 p.m., 10th August 2021** *“Procurement of the Supply, Delivery, Installation, Commissioning and Training Inductively Coupled Plasma Mass Spectrometer Coupled with Ion (Anion/Cation) Chromatography System. (P&S/IPHT/2021/155/RL/TEN65) Tender Box-01– Do not Open before 14.00 hrs., on 10th August 2021”* should be mentioned on the top left corner of the envelope. Late bids will be rejected. Bids will be opened soon after closing in the presence of the bidders’ representatives who choose to attend.
08. The Bidder shall possess a valid certificate issued by the Registrar of Public Contract in accordance with the Section 8 of Public Contracts Act No 03 of 1987 for every Bid which exceeds tenderable amount of Rs. Five (05) million. Complying for the PCA 01 will be a qualification for award of the contract and PCA 02 certification mandatory before come up to the agreement.

NAQDA will not be responsible for any costs or expenses incurred by Bidders in connection with the preparation or delivery of the Bids.

**Chairman,
Department Procurement Committee - Major
National Aquatic Resources Research & Development Agency (NARA),
Crow Island, Mattkkuliya,
Colombo-15.
Sri Lanka.
19.07.2021**

Volume 2

Contents

- Section II. Bidding Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria (EC)
- Section IV. Bidding Forms (BF)
- Section V. Schedule of Requirements (SR)
- Section VII. Contract Data (CD)
- Invitation For Bid (IFB)

Volume 1

Contents

- ☐ Section I. Instructions to Bidders (ITB)
- ☐ Section VI. Conditions of Contract (CC)
- ☐ Section VIII. Contract Forms (CD)

BIDDING DOCUMENT

Volume 2

**Procurement of the Supply, Delivery, Installation,
Commissioning and Training Inductively Coupled Plasma Mass
Spectrometer Coupled with Ion (Anion/Cation) Chromatography
System.**

TENDER NO : P&S/IPHT/2021/155/RL/TEN65

Volume 2

- Section II. Bidding Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria (EC)
- Section IV. Bidding Forms (BF)*
- Section V. Schedule of Requirements (SR)
- Section VII. Contract Data (CD)

Section II

Bidding Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Clause Reference	A. General
ITB 1.1	The Purchaser is: National Aquatic Resources Research & Development Agency (NARA)
ITB 1.1	The name and identification number of the Contract are: Procurement of the Supply, Delivery, Installation, Commissioning and Training Inductively Coupled Plasma Mass Spectrometer Coupled with Ion (Anion/Cation) Chromatography System. Tender No.: - P&S/IPHT/2021/155/RL/TEN65
ITB 2.1	The source of funding is: GOSL
ITB 4.4	Foreign bidders are allowed to participate in bidding : Not Allowed
	B. Contents of Bidding Documents
ITB 7.1	For <u>Clarification of bid purposes</u> only, the Purchaser's address is: Attention : Procurement Officer Address : National Aquatic Resources Research & Development Agency, Crow Island, Mattakkuliya, Colombo-15. Telephone: 011 252 9717 / 011 252 1000 Facsimile number: 011 252 9717 E – mail: purchasingp@nara.ac.lk
	C. Preparation of Bids
ITB 11.1 (e)	The Bidder shall submit the following documents according to the formats given in the Bidding Documents: Failure to furnish any of below from (i) to (vi) as specified, will cause the Bid to be non - responsive. <i>(i) Bid Submission Form</i> <i>(ii) Price Schedule</i> <i>(iii) Delivery Schedule</i> <i>(iv) Technical Specifications</i> <i>(v) Bid Security</i> <i>(vi) Copy of Registration as per the Public Contract Act No. 03 of 1987</i> <i>(vii) Manufacturer's Authorization</i> <i>(viii) Business Registration.</i> <i>(ix) Letter of Authorization for the signatory of the Bid to commit the bidder;</i> <i>(x) Annual Financial Reports for the past two years.</i> <i>(xi) Any other documents establishing Bidder's Qualifications</i>

ITB 14.3	The bidders may quote all quantities define in price schedule.
ITB 15.1	The bidder shall quote the local and Foreign expenditure in Sri Lankan Rupees.
ITB 17.3	Period of time the Goods are expected to be functioning (for the purpose of spare parts) : Ten (10) Years
ITB 18.1 (b)	After sales service is: “is required”
ITB 19.1	The bid shall be valid Ninety-One (91) days from the date of the closing of the bids.
ITB 20.1	Bid shall include a Bid Security (issued by bank or surety) included in Section IV Bidding Forms:
ITB 20.2	<p>The amount of the Bid Security shall be: Rs. 1,000,000.00 in Cash or Bank Security</p> <p>The validity period of the bid security shall be One Hundred and Twenty-One (121) days from the date of the closing of the bids.</p>
	D. Submission and Opening of Bids
ITB 22.2 (c)	The inner and outer envelopes shall bear the following identification marks: “Procurement of the Supply, Delivery, Installation, Commissioning and Training Inductively Coupled Plasma Mass Spectrometer Coupled with Ion (Anion/Cation) Chromatography System, Tender Box-01, Do not open before 1.00 p.m on 10th August 2021”
ITB 23.1	<p>For bid submission purposes, the Purchaser’s address is:</p> <p>Attention: Chairman</p> <p>Address: Department Procurement Committee Tender Box – 01 (Finance Division), National Aquatic Resources Research & Development Agency, Crow Island, Mattkkuliya, Colombo-15. Sri Lanka.</p> <p>The deadline for the submission of bids is:</p> <p>Date: 10th August 2021 Time: 01.00 p m</p>
ITB 26.1	<p>The bid opening shall take place at:</p> <p>Address: National Aquatic Resources Research & Development Agency, Finance Division, Main Building - 01st Floor, Crow Island, Mattkkuliya, Colombo-15.</p> <p>Date: 10th August 2021 Time: 1.00 p.m.</p>

	E. Evaluation and Comparison of Bids
ITB 34.1	Domestic preference shall not be a bid evaluation factor.
ITB 35.5	Bidders “ <i>shall</i> ” be quote to all items.

Section III.

Evaluation and Comparison

The Purchaser will evaluate and compare the bids, which have been determined to be responsive, pursuant to ITB.

Section IV

Bidding Forms

Table of Forms

Bid Submission Form

Schedule of Prices

Bid Security (Guaranty).....

Manufacturer's Authorization.....

Bid Submission Form

[The Bidder shall fill in this Form in accordance with the instructions indicated No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[Insert date (as day, month and year) of Bid Submission]*

TENDER No : P&S/IPHT/2021/155/RL/TEN65

To: **National Aquatic Resources Research & Development Agency (NARA)**

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda No.: *[insert the number and issuing date of each addenda]* ;
.....
- (b) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services;

**Procurement of the Supply, Delivery, Installation, Commissioning and Training
Inductively Coupled Plasma Mass Spectrometer Coupled with Ion
(Anion/Cation) Chromatography System**

The total price of our Bid without VAT, including any discounts offered is: *[insert the total bid price in words and figures]*;
.....
.....

- (c) The total price of our Bid including VAT, and any discounts offered is: *[insert the total bid price in words and figures]*;
.....
.....
- (d) Our bid shall be valid for the period of time specified in ITB Sub-Clause 18.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 23.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (e) If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause 43 and CC Clause 17 for the due performance of the Contract;
- (f) We have no conflict of interest in accordance with ITB Sub-Clause 4.3;

- (g) Our firm, its affiliates or subsidiaries—including any subcontractors or suppliers for any part of the contract—has not been declared blacklisted by the National Procurement Agency;
- (k) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (l) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Signed: *[insert signature of person whose name and capacity are shown]*

.....

In the capacity of *[insert legal capacity of person signing the Bid Submission Form]*

.....

Name: *[insert complete name of person signing the Bid Submission Form]*

.....

.....

Duly authorized to sign the bid for and on behalf of: *[insert complete name of Bidder]*

.....

.....

Dated on _____ day of _____, 2021 *[insert date of signing]*

Official seal:

Price Schedule

*[The Bidder shall fill in this Price Schedule in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*

PRICE SCHEDULE

1	2	3	4	5	6	7	8	9	10
			Goods and related Services offered within Sri Lanka (in Sri Lankan Rupees)						
Line Item No.	Description of Goods or related services	Qty and unit	Unit price (inclusive of duties, sales and other taxes) Excluding VAT	Price per line item (Col. 3x4)	Inland transportation, insurance and other related services to deliver the goods to their final destination if not included under column 4	Total Price Excluding VAT (Col 5+6)	Discounted Total price (if any) excluding VAT	VAT	Total Price Including VAT (Col. 7 or 8+9)
01	Supply, Delivery, Installation, Commissioning and Training Inductively Coupled Plasma Mass Spectrometer Coupled with Ion (Anion/Cation) Chromatography System <i>a) Inductively Coupled Plasma Mass Spectrometer (ICPMS) suitable for analysis of Drinking water, Sea water, Brackish water, Fresh water, Wastewater, Soil, sludge, Sediments, Plant materials, Animal tissues, Biological samples etc.</i>	01							

<p>b) <i>ICP MS Autosampler for sample introduction.</i></p> <p>c) <i>Fully inert Chromatography system to couple with ICPMS for speciation analysis and Anion and Cation analysis.</i></p> <p>d) <i>Autosampler for Chromatography system.</i></p> <p>e) <i>2 Computers loaded with required software and data systems.</i></p> <p>f) <i>Gas Change over system to couple 6 Argon gas bottles with required accessories and gas plumbing up to the instrument, High purity He gas cylinder and gas plumbing up to the instrument.</i></p> <p>g) <i>Instruments specific Spares, Consumables, Tuning and Calibration</i></p>								
--	--	--	--	--	--	--	--	--

[illegible]

VAT registration number.....
(If applicable, please attach VAT Certificate)

Total amount in words; Sri Lank Rupees.....
.....
.....

Signature of the Bidder

Common Seal of the Company

Name & address of the Company-.....
.....
.....

Name & address of the Authorized Officers:
.....
.....

Telephone Number -

Fax Number -

Email -

Date:/..... / 2021

COMPANY DETAILS

Please provide the necessary details with the copies of certifications.

1. Registration Number : _____

2. Previous Experience _____ Years

4. Details of the recent supplies

--

5. Awards obtained

--

Bid Guarantee

[this Bank Guarantee form shall be filled in accordance with the instructions indicated in brackets]

[insert issuing agency's name, and address of issuing branch or office] -----

***Beneficiary : National Aquatic Resources Research & Development Agency (NARA)**

Date: ----- *[insert (by issuing agency) date]*

BID GUARANTEE No.: ----- *[insert (by issuing agency) number]*

We have been informed that -----

[insert (by issuing agency) name of the Bidder; if a joint venture, list complete legal names of partners] (hereinafter called "the Bidder") has submitted to you its bid dated ---
----- *[insert (by issuing agency) date]* (hereinafter called "the Bid") for the supply of -----

[insert name of Supplier] under Invitation for Bids No. ----- *[insert IFB number]* ("the IFB").

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we -----

[insert name of issuing agency] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of -----
[insert amount in figures] -----

-----*[insert amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
- (c) having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This Guarantee shall expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the Bidder and of the Performance Security issued to you by the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder that the Bidder was unsuccessful, otherwise it will remain in force up to ----- *(insert date)*
Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date. _____

[Signature of authorized representative(s)]

Manufacturer's Authorization

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its bid, if so indicated in the BDS.]

Date:

[insert date (as day, month and year) of Bid Submission]

No.:

[insert number of bidding process]

To:

[insert complete name of Purchaser]

WHEREAS

We

.....
.....
[insert complete name of Manufacturer], who are official manufacturers of.....

.....
[insert type of goods manufactured], having factories at [insert full address of Manufacturer's factories], do hereby authorize

.....
[insert complete name of Bidder] to submit a bid the purpose of which is to provide the following Goods, manufactured by us

.....
[insert name and or brief description of the Goods], and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 27 of the Conditions of Contract, with respect to the Goods offered by the above firm.

Signed:
[insert signature(s) of authorized representative(s) of the Manufacturer]

Name:
.....
[insert complete name(s) of authorized representative(s) of the Manufacturer]

Title:*[insert title]*

Duly authorized to sign this Authorization on behalf of:*[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Section V

Schedule of Requirements

Contents

- 1. List of Goods and Delivery Schedule**
- 2. List of Related Services and Completion Schedule**
- 3. Technical Specifications**
- 4. Inspections and Tests**

1 - List of Goods and Delivery Schedule

[The Purchaser shall fill in this table, with the exception of the column "Bidder's offered Delivery date" to be filled by the Bidder]

Item No	Description of Goods	Qty	Unit	Place of Delivery	Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [<i>to be provided by the bidder</i>]
01	Supply, Delivery, Installation, Commissioning and Training Inductively Coupled Plasma Mass Spectrometer Coupled with Ion (Anion/Cation) Chromatography System.	01	Nos	NARA Head Office	Within 04 weeks upon confirmation of order	Within 08 weeks upon confirmation of order	

2 - List of Related Services and Completion Schedule

[This table shall be filled in by the Purchaser. The Required Completion Dates should be realistic, and consistent with the required Goods Delivery Dates]

Service	Description of Service	Quantity ¹	Unit	Place where Services shall be performed	Final Completion Date(s) of Services
<i>Training</i>	Defined in Technical Specification	Minimum 03	Persons	At NARA	At least within two weeks upon completion of the delivery and commission of the items

1 If applicable

3 – Technical Specifications

[The Technical specifications may be provided in the following format. The bidder shall fill the columns 6 and 7. **Bidder's failure to provide the information requested in the columns 6 and 7 may be a reason for the rejection of the bid.** If any discrepancy is observed between the information provided by the bidder in the columns 6 and 7 and the other technical information attached to the bid, the information provided herein shall take precedence.]

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Line Item No	Description of Goods or Related Service	Sub Component	Technical Specifications and Standards			
			Purchaser's Requirements		Bidder's Offer	
			Detail	Priorit y	Yes(Y) / No(N)	Remarks
01 1	INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER (ICP-MS)		Make (please specify)			
			Model (please specify)			
			Country of Origin (please specify)			
			Country of Manufacturing (please specify)			
			Year of manufacture (please specify)			
		Description	Should be a field proven Bench top ICP-MS for element analysis in water, drinking water, sea water, wastewater, ground water, sludge and soil samples and digested (plant materials, animal tissues) biological samples.	C		
			ICP-MS instrument should be able to upgrade with different accessories enhancing analytical capabilities such as Chromatography systems for speciation studies (HPLC, IC, GC), Laser Ablation, Auto sampler, Nanoparticle measuring kits and Dilution systems.	C		

			ICP-MS should be compatible to conduct speciation studies for metals such as As, Hg, Cr & Se		C		
			ICP-MS should be compatible to analyses metals such as Li, Be, Na, Mg, Al, K, Ca, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Sr, Mo, Pb, Ag, Cd, In, Sn, Ba, W, Ta, Ir, Pt, Au, Hg, Rh, Pb, Bi and metalloids such as B, Si, As, Sb etc.in ppb/ppt levels.		C		
		Sample introduction system	Standard Nebulizer	Concentric type nebulizer made up with borosilicate glass.			
			Nebulizer for high Matrix sample	Suitable Nebulizer kit which can handle Seawater injection and High Matrix samples directly shall be quoted. This should handle minimum of 25% TDS samples.	C		
			Nebulizer Flow rate	Sample flow rate 0.4 ml/min or less			
			Connection	Should be able to connect to auto sampler			
			Spray Chamber	Inert Quartz low volume, Peltier cool spray chamber	C		
			Spray Chamber design	Should be cyclonic type design			
			Temperature Control	Software controlled Peltier system should be available with temperature range Minus (-) 10 to 20 °C or better			
			Peristaltic pump	Should be low pulse and high precision design 12 or more roller peristaltic pump design with minimum 4 separate channels	C		

				Should have integrated bubble sensor to monitor nebulizer block and discontinuation of sample line.	C		
		Plasma	RF generator	Should be a maintenance free solid state 27 MHz RF generator			
			RF Power	Software controllable RF power range should be from 500W to 1600W			
			Plasma Torch	Should be one-piece quartz torch with 2.5 mm internal diameter injector and without external gas connection	C		
				Should be demountable and self-alignment design torch	C		
				User changeable torch without any special tools	C		
				Should be without any shield for easy maintenance and reduced consumable cost	C		
			Gas Consumption	Low Argon gas consumption design, Total gas consumption approximately 15 L/min.			
			Remote monitoring of Plasma	Should have facility to monitor plasma status via camera	C		
		Interface	Sample cone	Should quote Ni or Similar Material sample cone for general applications and inert Pt cone for sea water/ high TDS applications.			
			Skimmer cone	Should be Ni or Similar Material skimmer cone for general applications and inert Pt			

				cone for sea water/high TDS applications with orifice 0.5 mm skimmer cone.			
			Cone Accessibility for routine maintenance	The sample cone and skimmer cone should be able to remove for routine maintenance without venting the analyzer chamber and Interface should not have more than 2 cones to minimize consumable cost.	C		
			Cone Design	Should be minimal matrix condensation design	C		
			Spare cone set	Should be supplied with additional Ni or similar sample and skimmer cone set for general applications			
			Extraction Lens	Should extract all plasma ion and focus them through ion deflector. Should be easy access design without venting vacuum for maintenance	C		
		Mass Analyzer	Mass Analyzer should consist of an Ion Deflector to remove neutrals and impurities, mass filter to cut off interfering masses when measuring higher masses, Collision cell with facility to add He collision gas and separate reaction gas, Analyze quadrupole and detector.		C		
			Ion Lens/Deflector	Ion deflector designed to turns ions 90 degrees, focusing all ions into the mass analyzer and discarding all neutral species	C		

			Collision Cell	System should have separate gas channel to introduce collision gas (He) for Interference removal. Kinetic Energy discrimination facility must be available to remove interferences	C		
			Reaction Gas	Should have a separate dedicated reaction gas line to collision cell to introduce reaction gas for enhanced interference removal. Be able to add Ammonia, /Oxygen, Hydrogen or gas mixture as reaction gas.	C		
			Low mass Interference Removal	Should have filter to remove polyatomic interference created by combinations of low mass precursors when measuring higher masses. This should cut off common interfering elements like H, C, N, O, Na, P, S, Cl, Ar, Ca	C		
		Mass Spectrometer	Analyzer Quadrupole	Rods should be homogeneous, non-coated solid inert material.	C		
				Should be highly reliable, non-consumable and maintenance free type. Quadrupole. Manufacturer declaration is required confirming quadrupole is not a consumable.	C		

			Mass range	Mass range should be 2-280 amu or better	C		
			Mass Resolution	Unit Mass resolution or better			
			Mass Scanning Speed	Mass scan speed should be more than ($>$) 3500 amu/sec			
			Mass stability	Mass stability should be \pm 0.025 amu for minimum 24 hours or better	C		
			Sensitivity	Abundance Sensitivity should be less than 0.5 ppm	C		
			Guaranteed Sensitivity Standard Mode	55,000 cps/ppb or higher at ^7Li or ^9Be ,	C		
				200,000 cps/ppb or higher at ^{115}In	C		
				300,000 cps/ppb or higher at ^{238}U or ^{209}Bi .	C		
			Guaranteed Sensitivity for Kinetic Energy Discrimination mode	Should be 30,000 cps/ppb at ^{59}Co or higher.	C		
			Detection limits: Detection Limits (ppt):	^9Be or $^7\text{Li} < 0.5$ (Low mass)	C		
				$^{115}\text{In} < 0.1$ (Mid Mass)	C		
				$^{209}\text{Bi} < 0.1$ or $^{238}\text{U} < 0.1$ (High Mass)	C		
			Guaranteed background on mass	Should be at 0.5 cps or less	C		
			Oxide ratio	Should be 2% or less and doubly charged ratio should be less than 3% for $\text{Ce}^{++}/\text{Ce}^{+}$ or $\text{Ba}^{++}/\text{Ba}^{+}$	C		

			Detector	Should be easy exchangeable without cable connection			
			Liner Dynamic Range	Should have wider linear dynamic range minimum 9 orders of magnitude or better.	C		
			Dwell Time	100 us (Microsecond) dwell time in both pulse and analogue modes			
		Vacuum System		Should offer a faster vacuum system. Be able to reach required vacuum level in less than 15 mins after maintenance and shut down. Should offer an oil free roughing pump in addition to turbo molecular pump to reduce the stress on turbo pump.			
			Safety	Vacuum should be maintained even in a power failure or in the event of plasma extinguishes	C		
		Software	Instrument software	Should be able to control all accessories of ICP-MS including auto samplers and speciation chromatography system.	C		
				Should be compatible with latest versions of Genuine Windows operating software. Minimum Windows 10 or higher	C		
				Should have 21CFR Part 11 Compliance, QA/QC features & minimum 2 offline licenses	C		

				for data processing purpose.			
				Should be able to integrate with Laboratory Information Management System (LIMS)	C		
				All licenses should be provided to the NARA. Necessary updates / upgrades should be provided by the supplier.	C		
				Should facilitate remote monitoring of the system by manufacturing expert team to provide prompt support.	C		
		Accessories	Brand new Computer	Brand new computers (1 TB Hard Disk, 16GB RAM and core i5 processor) and laser printer with 21" LCD monitor should be supplied. (Please attached details)	C		
			Power Supply/UPS	20 kVA online UPS for Complete ICP-MS instrument and accessories with minimum 30 minutes backup. To be operate from 230V ac ,50Hz local power supply.	C		
			Isolation Transformer	Suitable isolation transformer for the protection of the instrument.	C		
			Gas supply system-Argon	Six Argon gas cylinders with Argon gas change over system for 6 gas bottles, high quality SS gas tubing and fittings	C		
			Gas supply-Helium	One (1) Helium cylinder (99.999%) with required	C		

				regulator and plumbing should supply.			
			Gas purification and distribution panel with lines	Suitable Gas purification and distribution panel with lines should be provided. Lines should be sufficient to install and connect cylinders in adjacent room.	C		
			Exhaust fan and duct	Supplier should provide and install suitable exhaust fan and duct. Details should be provided in the quotation.	C		
			Water Chiller	Water Chiller is required. it should be a manufacturer recommended system and chiller should be low noise chiller that can be installed in the same room and should use water as cooling media.	C		
		ICP MS Autosampler	Compatibility	Auto sampler should be fully compatible with ICP-MS system.	C		
				Should have X, Y, Z axis movement for sample handling			
			Capacity	Approximately 100 x 5 / 10 mL and 20 x 50 mL samples capacity or better Should be fully controllable through ICP-MS software			
				Minimum 200 sample tubes, and autosampler washing solution bottle (at least 10 L) should provide with the autosampler	C		

			Waste tank	20 L waste tank should be supplied with the connection tubing for auto sampler	C			
		Spare parts and consumables	Quote separately for spare parts and consumables required frequently					
			The supplier must agree to provide necessary spare parts at least for 10 years after installing the instrument.			C		
	Chromatography system for Speciation and Ion analysis (anions and Cations)	Should be a field proven Bench top Chromatography system for element analysis in water, drinking water, sea water, wastewater, ground water, sludge and soil samples and digested (plant materials, animal tissues) biological samples.			C			
			Make (please specify)					
			Model (please specify)					
			Country of Origin (please specify)					
			Country of Manufacturing (please specify)					
			Year of manufacture (please specify)					
			Chromatography system	Fully inert High performance /High Pressure Chromatography system.	C			
			System Compatibility	Chromatography system should be able to work as independent analyzer for Anion and cations analysis and fully compatible of coupling with ICP-MS system. It should operate under one software platform.	C			

				The proposed chromatography system should be fully inert. All liquid contact components, flow paths, pump heads should be made of metal free material. Manufacturer should confirm this via literature. All parts should stand for pH 0-14 and solvents (Acetonitrile, Methanol, Etc)	C		
				System should consist of zero dead volume connections. This should be confirmed via manufacturer literature.			
			Chemically Inert Pump	Chemically inert pump with vacuum degasser. All liquid contacting parts to be made of chemically inert materials.	C		
			System Pressure	Should be 6000 psi or better.			
			Flow Range	Up to 10ml/min or better			
			Pump Delay Volume	Should offer minimum delay volume. Please specify			
		Auto-Sampler for Chromatograph	Chemical Inertness	Should be fully chemically inert system. All liquid paths made of chemically inert metal free material and suitable for pH range 0- 14 and buffers and solvents	C		
			Vial capacity	Should expect vials up to 5ml. Minimum 50 vials capacity.			

				Loop system with - auto dilution/ sample preparation, cleaning etc for direct seawater analysis			
		Column Compartment / Column Oven	Capacity	Should accommodate 2 or more columns			
			Temperature Range	Ambient to 80 Deg or Better			
				Should be integrated to the system.			
		Detector for Anions and Cations Analysis (conductivity detector)	Sensitivity	Suitable detector to measure cations and anions in ppm and ppb range should be quoted. Preferably conductivity detector.	C		
			Cations to measure	As, Cr, Hg, Cd, Na, K. Li, Mg, Ca, Ammonium, Amines, St, Ba	C		
			Anions to measure	Chloride, Fluoride, Bromide, Phosphate, Nitrate. Nitrite, Sulphate, Carbonate, Organic acids, Bromate.	C		
			Data collection/ sampling Rate	100Hz or better			

		Instrument Control	Compatibility with ICPMS software	Chromatograph to control through ICPMS software when using as speciation device. All required accessories required to couple with ICPMS need to be supplied	C		
			Individual Operation as Ion analyser	Separate computer to be provided to operate chromatography system when operating as independent cation and anion analyser.	C		
			Brand new Computer	Brand new computers (1 TB Hard Disk, 16GB RAM and core i5 processor) and laser printer with 21" LCD monitor should be supplied. (Please attached details)	C		
			Power supply/UPS	Should be able to operate through same UPS supplied to ICPMS	C		
		Columns		Bidder should quote all required columns and guard columns required for speciation analysis. (Hg, As, Se and Cr speciation) and required columns for cation and anion analysis mentioned above.	C		

				Other accessories, and connection kit with all necessary software packages required for workable system should be included in the package.	C		
			Chromatography system Software	The software must be able to provide fully automatic control of the process of analyzing samples. This must include acquiring data, quantitation, producing a report. The software must be able to automate integration updates without time consuming batch reprocessing of changes to integration in a data set. The software must have the ability to customize the report format and content. System should have option to upgrade for remote monitoring.			
		Waste tank		20 L waste tank should be supplied with the connection tubing for autosampler	C		
			Site Preparation	Authorized Distributor should provide the details on installation requirement and space requirement in their bid. NARA will provide the requirement as per specification provided in the bidding document. If any	C		

				other requirement specified later Supplier need to provide it FOC to NARA.			
		Consumables and Chemicals required for 1000 analysis		Suppliers to quote consumables and chemicals required for minimum of 1000 sample analysis below chemicals and consumables are only a guid to suppliers. Bidders should specify the quantity, Quality and purity, Brands and Catalogue numbers along with manufacturer product information and certificates of analysis.	C		
			Calibration solutions for ICP-MS	Auto tuning standards and calibration solutions (250 ml each) for minimum one-year operations of ICP-MS.	C		
			Syringe Filters	0.45 pm syringe filters to filter sample - 2000	C		
			Ultrapure acids	Ultra-trace analysis grade HNO3 (I L x 10 nos), HCL (I L x 1) should be supplied for sample digestion	C		

			NIST traceable standards	100 ml x 2 nos of multi element standard solution (50 mg/L) including Na, Mg, Al, K, Ca, Cr, Mn, Fe, Co, Ni, Cu, Zn, Se, Cd, Sn, Sb, Ba, Pb, As, Hg, and other necessary elements must provide with the instrument.	C		
			Standards for Speciation studies	Relevant Standards for As, Cr speciation should be offered.	C		
			Certified reference material	Certified reference material for Sea water, Fish related, soil and plants.	C		
				Ultrapure NaCl and MagCl ₂ (minimum 50 g) should be supplied for matrix matching.	C		
				Au (1000 ppm), 250 mL should be supplied for Hg analysis	C		
	Other Mandatory Requirements for above instruments.	Spare parts and consumables for 2 years operation	Bidders are required to quote separately consumables and spares required for 2 years operation. Should specify the items, unit price and quantity offered.				
			The supplier must agree to provide necessary spare parts at least for 10 years after installing the instrument.		C		
		Complete workable system	Instrument should be a fully workable system				

		Supportive instrument for successful operation.	NARA will provide calibrated glassware, and general lab items like analytical balance, micropipettes, fume hoods, refrigerators for storing of standards, Homogenisers, Microwave digestion systems etc. If any Instrument manufacturer specific accessories or tools required for successful operation bidders are required to include them in the bids.	C		
		Warranty	All Instruments and accessories should carry full two-year warranty from the date of installation and commission completion and Computer and related Assoceries should Three years warranty. Original warranty should come from the instrument Manufacturer and warranty shall be affected through local agent	C		
		Installation & Commissioning	Bidder should carry out instrument installation and commissioning at installation site (NARA) System performance to be demonstrated to end users and end users to be trained as below	C		
		Training	On-Site training.	Minimum 05 days of user training for NARA staff by Qualified Technical Engineer and an Application Specialist at installation site.	C	
			Training at Manufacturer's Site	Minimum 05 days of user training for 03 officers of NARA staff at manufacturing site by manufacturer experts.	C	
		Service and Maintenance agreement Service and Maintenance agreement	Bidder should provide preventive maintenance service during the warranty. Cost of service and maintenance agreement up to 8 years after warranty to be quoted separately.	C		
	Essential Criteria for evaluation		Documents required for evaluation			

	Requirements From Manufacturer	Printed literature	Printed literature for the instrument manufacturer should be attached with the offer.	C		
		Capability	Manufacturer should have at least 5 Nos of same series installations in Sri lanka . List of users with contact details should be attached with tender.			
		All specifications	All specifications requested need to be highlighted and tagged for easy reference during the evaluation.	C		
		Letter of authority	Should provide a letter of authority from the manufacture, certifying the local agent in Sri Lanka. Letter should indicate that the instrument and all necessary parts / accessories are brand new. If any specification requested are not given in the printed brochures, technical specifications, manufacturer should certify in a letter that the instrument comply with those specifications. The manufacturer /mother company should send this letter directly to the National Aquatic Resources Agency (NARA), Sri Lanka via an Email service. (A copy of the letter needs to attach with the tender.)	C		
		Written confirmation	Further, manufactures independently provide a written confirmation that they will provide their services and support even they change the local agent in Sri Lanka. This letter should be signed by the most senior and empowered manager responsible for Sri Lankan Market. Closest support centre of the manufacturer and Contact person details need to be attached to the tender. The manufacturer /mother company should send this letter directly to the National Aquatic Resources Agency (NARA), Sri Lanka via an Email service. Certified copy should be attached with the tender documents. Offers not carrying authentic letter of authority will be rejected.	C		
	Requirements from Authorized	ICP-MS installations	Authorized Distributor should have at least five successful ICP-MS installations in the country.	C		

	Distributor/Bidder					
	ICPMS with Speciation systems	Authorized distributor should have experience in handling ICPMS with Speciation systems locally.	C			
	Operational manuals	Should supply one set of Operation Manual in English language				
	Previous experience	Previous experience in sales and maintenance of ICP-MS in Sri Lanka is essential. Supplier should have at least 5-year experience for supply and maintaining high-tech laboratory instruments.	C			
	Capability	Bidder should have at least 5 Nos of same series installations in Sri Lanka. List of users with contact details should be attached with tender.	C			
	After sales service	Further, supplier should have an established after sales service unit with proven records and necessary tools. Should attached list of instruments supplied last 10 years. In the event of Instrument is malfunctioning, local agent should attend to the job within 48 hours.	C			
	Principal support	Instrument manufacturers preferably should have an application and service support centre in southeast Asia in order to get principal support	C			
	Experience and qualifications of the bidder	<p>Bidder should have Manufacturer trained after sales technical team to provide uninterrupted aftersales support. They should be having sufficient field and educational qualifications. <u>Following documents to be attached as proof for experience and qualification.</u></p> <ul style="list-style-type: none"> i. Number of the technical staff ii. Educational qualification of the technical staff iii. Field experience of the staff how many years of experience with the bidder and their EPF nos. iv. Training received by each technician/Engineer from Manufacturer. 	C			G

			<u>Should attach training certificates/Letter issued by Manufacturer.</u>			
		Bidders Ability to complete the supply	Bidder should have minimum 05 years' experience in handling high technological Instruments. List of instruments supplied with end user details need to be provided	C		G
			Bidder should have strong financial capability to sustain a high calibre teams in order to provide long-term support. Bidder's average annual turnover during the last 3 years should be minimum of Rs. 150Mn and supportive audited accounts need to be attached.	C		G
			Working Capital of past 3 years (should furnish past 3 years audited balance sheets)	C		
			Bidder should have positive working capital for at least two of the past 3 years.	C		G
			Bidder should have profits after tax equivalent to the 50% of the quoted value of the instrument during past 3 years.	C		G

4. Inspections and Tests

The following inspections and tests shall be performed: *[insert list of inspections and tests if any]*

S. No.	Item Description	Compliance to the Required Specifications	Remarks

Section VII. Contract Data

The following Contract Data shall supplement and / or amend the Conditions of Contract (CC). Whenever there is a conflict, the provisions herein shall prevail over those in the CC.

[The Purchaser shall select insert the appropriate wording using the samples below or other acceptable wording, and delete the text in italics]

CC 1.1(i)	The Purchaser is: National Aquaculture Development Authority of Sri Lanka
CC 1.1 (m)	The Project Sites / Final Destinations are: National Aquatic Resources Research & Development Agency, Crow Island, Matkkuliya, Colombo-15.
CC 8.1	For <u>notices</u> , the Purchaser's address shall be: Attention : Director General Address : National Aquatic Resources Research & Development Agency Crow Island, Matkkuliya, Colombo-15. Telephone: 011 252 9717 / 011 252 1000 Facsimile number: +94 011 252 9717 e-mail Address : purchasingp@nara.ac.lk
CC 15.1	<p>CC 15.1 CC 15.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p>Advance Payment: Thirty (30) percent of the Foreign currency portion shall be paid within thirty (30) days of signing of the Contract, and upon supplier opening of Letter of Credit in favour of the Purchaser and upon submission of a advance payment guarantee for equivalent amount valid until the Goods are delivered and in the form provided in the bidding documents or another form acceptable to the Purchaser.</p> <p>On Acceptance: Seventy (70) percent of the Foreign currency portion of Goods received shall be paid within thirty (30) days of receipt of the Goods upon submission of claim supported by the acceptance certificate issued by the Purchaser.</p> <p>Payment of local currency portion shall be made in Sri Lankan Rupees within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed.</p>

CC 17.1	A Performance Security equivalent to 10% of the total contract value valid up to twenty eight days (28) beyond the date of completion of the contract, shall be required.
CC 25.1	The inspections and tests shall be : upon the delivery of the complete order and Supplier should bear all the expenses incurred on testing of the equipment.
CC 25.2	The Inspections and tests shall be conducted at: the place of Final destinations.
CC 26.1	The liquidated damage shall be: 0.1 % per day
CC 26.1	The maximum amount of liquidated damages shall be: 5 %

Invitation for Bids (IFB)

National Aquatic Resources Research & Development Agency

Tender Number: P&S/IPHT/2021/155/RL/TEN65

1. The Chairman, Department Procurement Committee (Major) on behalf of the *National Aquatic Resources Research & Development Agency* now invites sealed bids from eligible and qualified bidders for *the Procurement of the Supply, Delivery, Installation, Commissioning and Training Inductively Coupled Plasma Mass Spectrometer Coupled with Ion (Anion/Cation) Chromatography System.*
2. Bidding will be conducted through **National Competitive Bidding Procedure.**
3. Interested eligible bidders may obtain further information from *the National Aquatic Resources Research & Development Agency; Procurement Officer Tele: 011 252 9717 / 011 252 1000* and inspect the Bidding Documents at the address given below *during office hours from 9.00 a m to 3.00 p m till 09th August 2021.*
4. Qualifications requirements include: being ***Manufacturer or accredited agent in supplying high-technology laboratory instruments with at least 05 years' experience in the relevant field.*** Additional details are provided in the Bidding Documents.
5. A complete set of Bidding Documents in English language may be purchased by interested bidders on the submission of a written application to the address below and upon payment of a non-refundable fee of LKR 15,000/- during the period indicated in above 3. The method of payment will be in cash only.
6. **Bids must be delivered to the address below at or before 1.00 p m 10th August 2021. Late bids will be rejected. Bids will be opened in the presence of the bidders' representatives who choose to attend in person or on-line at the address below immediately after the closing of Bids. All bids must be accompanied by a "Bid-Security," of LKR 1,000,000/- or an equivalent amount in a freely convertible currency.**

The address referred to above is:

Director General,
National Aquatic Resources Research & Development Agency,
Crow Island, Mattkuliya,
Colombo-15.
Telephone: 011 252 9717 / 011 252 1000
Facsimile number: +94 011 252 9717
E-mail Address : purchasingp@nara.ac.lk.

Chairman
Department Procurement Committee - Major
National Aquatic Resources Research & Development Agency,
19.07.2021