सी0एस0आइ0आर0-भारतीय पैट्रोलियम संस्थान
CSIR-Indian Institute of Petroleum
(वैज्ञानिक एवं औद्योगिक अनुसंधान परिशद)
(Council of Scientific & Industrial Research)
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Creating Future Fuels
ISO-9001-2015 Regd. Institute

Reference No.: IIP/PUR/1/22-23/189/EOI/HT-GC-WA/JK/ASD/PO: Date: 04.08.2022

Subject: Invitation of Expression of Interest for **"High Temperature Gas Chromatography-Wax Analyzer (HT-GC-Wax Analyzer)" Instrument**

CSIR-Indian Institute of Petroleum (IIP), Dehradun, and ISO 9001-2015 Institute, is one of the leading constituent laboratories under Council of Scientific & Industrial Research (CSIR) engaged in R&D work in petroleum refining, natural gas and petro-chemicals and contributing towards creation of state of the art technology & products. CSIR-IIP has been working on several projects of National importance independently and also in collaboration with well-known Indian & foreign organizations.

This EOI is designed to explore the market and to finalize specifications based on technical discussions/presentations with the experienced Engineering/Fabricating companies/Firms in a transparent manner for **"High Temp. Gas Chromatography Wax Analyzer".**

E-BIDS for EOI are hereby invited through Central Public Procurement (CPP) Portal (https://www.etenders.gov.in) and only online offers will be entertained from the registered bidders of CPP Portal.

Reference No.: IIP/PUR/1/22-23/189/EOI/HT-GC-WA/JK/ASD/PO:

Supply of "High Temp. Gas Chromatography Wax Analyzer"

Last date of submission : **29.08.2022 by 3:00 PM**

Date of opening : **30.08.2022 at 3:00 PM**

Interested bidders may download the details from our Website: www.iip.res.in **or on CPP Portal (https://www.etenders.gov.in**).

For and on behalf of CSIR

S/d
Controller, Stores & Purchase

Subject: Invitation for Expression of Interest (EOI) for "High Temp. Gas Chromatography Wax Analyzer"

CSIR-India Institute of petroleum (IIP), Dehradun an ISO 9001 Institute is one leading constituent under the council of scientific & Research (CSIR), engaged in R&D work in petroleum refining, natural gas and petrochemicals and contributing towards the creation of the state of the art technology & products. CSIR-IIP has been working on several projects of national importance independently and also in collaboration with well-known Indian organizations.

EOl are invited from reputed firms for supply of **"High Temp. Gas Chromatography Wax Analyzer"** for CSIR-IIP, Dehradun the required material properties for determination of the carbon number distribution of petroleum waxes in the range from n-C17 to n-C80 in wax samples as per Institute further requirement (Lubricating Oil analysis etc.). The entire part of Gas Chromatograph including Auto sampling must be of same original equipment manufacturer (OEM).

Firms that have executed similar orders previously can apply along with documentary evidence for the same. The firms should also meet the other parameters as given below and required to submit the following information along with their applications:

a) Name of the firm with constitution /proprietorship detail, etc with the date of establishment/ registration

b) List of similar orders completed in the last seven years as above with testimonials from the department concerned and the details of contact persons.

c) The firm should not have incurred any loss in more than 2 years during the last 5 years ending 31st March, 2022.

d) List of order in hand giving details of department, and cost, date of start and completion with present progress, and the clients' contact details.

e) The certified Balanced Sheet and Profit & Loss account of the firm for the previous two years (2020-2021 and 2021-2022) must be enclosed with the offer.

f) Please submit articles of Association along with the offer to outline the scope of activities and standing of the firm.

Firms are requested to refer to the ***Order Nos. P-45021/2/2017-PP (BE-II) dt. 15.06.2017 as amended vide order of even number 28.05.2018, 29.05.2019, 04.06.2020, and 16.09.2020 and any subsequent amendments thereto*** issued by Public Procurement Section of DPIIT, Min. of Commerce & Industry, Government of India in their own interest to know about the provisions related to domestic suppliers for participation in open tenders. Firms may also refer to various other policies / programs of the Govt. related to promoting domestic manufacturing and/or supply

Offers against this EOI containing the technical aspects and contractual terms and conditions of the proposed procurement without a bid price should be submitted in form of E-BIDS through Central Public Procurement (CPP) Portal (https://www.etenders.gov.in) and only online offers will be entertained from the registered bidders of CPP Portal. Last date of submission of EOI is **29.08.2022 by 3.00 PM**. and shall be opened on the **30.08.2022 at 3:00 PM**. Shortlisted firms shall be called for making a presentation at a later date.

If the Procuring Entity is of the view that after EoI stage, there is likelihood of further participation by many more bidders and to avoid getting trapped into a legacy technology, the second stage bidding may not be restricted only to the shortlisted bidders of EoI stage. In the second stage, normal OTE/GTE bidding may be done.

If any information furnished by the applicant is found incorrect at a later stage, it shall be liable to be debarred from tendering/taking up of work in CSIR. CSIR-IIP reserves the right to verify the particulars furnished by the applicant; independently. CSIR-IIP reserves the right to reject any prospective application without assigning any reason.

Technical specifications for "High Temperature Gas Chromatography-Wax Analyzer (HT-GC-Wax Analyzer)" for CSIR-IIP, Dehradun are as follows.

The material would include the following properties:

S.No		Specifications
1.	CHROMATOGRAPHIC PERFORMANCE	High Temperature Gas Chromatography-Wax Analyzer should be factory configured and comply with ASTM D5442 (Extended) using fully automated with high temperature FID detector for determination of the carbon number distribution of petroleum waxes in the range from *n*-C17 to *n*-C80 in wax samples.
		The entire part of Gas Chromatograph with Auto sampling must be of same original equipment manufacturer (OEM).
		The Vendor has to submit the test report and chromatogram of actual wax sample as per ASTM D5442(Extended).
		Retention time repeatability < 0.008% or <0.0008 min or better
		Area repeatability <1% RSD.
2.	OVEN	Ambient temp +4°C to 450°C.
		Maximum achievable temp rates: 120°C/min or better. Number of temperature-programmed ramps: 20 ramps with 21 isothermal hold or better.
		Oven cool down time should minimum
		Temp stability should be within 0.1% of the actual temp.
3.	**INJECTOR**	Split/splitless Inlet system with pneumatics control, Maximum temp: 450°C, 0-150 psi or better operation with 0.01psi increments, split ratio up to 7500:1 or better.
4.	AUTO SAMPLER	It should be capable of loading minimum 10 samples at a time.
5.	**HIGH TEMPARATURE FLAME IONIZATION DETECTOR (High Temp FID)-01 No.**	FID with pneumatic control.
		Maximum temp: 450°C.
		Minimum Detectable level ≤ 1.2 pg C/s.
		Linear dynamic range: > 10 to power 7.
		Flame out detection & auto reignite.
		Data rates 500 Hz or better.
		FID with pneumatic control.
6.	**FLOW CONTROL SYSTEM**	The Gas chromatograph should have EFC/EPC/PPC System such as constant pressure, pressure programmer, constant flow and flow programmer for carrier gases, Detectors and for auxiliary gases
		The EFC/EPC/PPC should be able to set the pressure to a minimum accuracy of 0.1 or better.
		EPC /EFC for Capillary Inlet with resolution pressure set point 0.001 psi.
7.	**COLUMNS**	Two set of suitable high temperature columns for ***n*-C17 to *n*-C80** as per ASTM D5442 (Extended)
8.	CHROMATOGRAPHY MANAGEMENT SOFTWARE	Original full version Latest licensed software should be supplied along with the system.
		The vendor should provide the original software

		license certificate from the original manufacture.
		The software should be Windows7 or higher OS operative.
		The report should have the chromatogram of the FID and the Concentration of the individual components.
		Integrated Chromatography software should have 21 CFR Part 11-compliance.
		Should have analytical system performance qualification with the IQ/OQ.
9.	**CALIBRATION BLEND**	***n*-C17 to *n*-C80** as per ASTM D5442 (Extended).
10.	**PC AND PRINTER**	The system should be supplied with a **branded computer along with double sided printing printer** with latest and required configuration for running the system software for data acquisition, data processing and data storing and printing purpose.
11.	**INSTALLATION**	Supply complete installation with required accessories.
12.	**WARRANTY**	12 months warranty from the date of commissioning.
		A certificate from the vendor is required stating that it will provide compulsory ten year service support with required spares after the supply of the instrument.
13.	**SERVICE SUPPORT**	Minimum 10 Years service support with required accessories.
14.	**OTHER ACCESSORIES**	Digital Gas Flow Meter for gas flow checking in GC (Flow Range 0.5 to 500 ml/min, Accuracy +- 2%).
		All technical point should be mentioned in origin Lit or Brochure.
		On-site training: Installation, complete demonstration of the capabilities of the system with calibration standard and actual transformer oil sample for ASTM D5442 (Extended).

For and on behalf of CSIR

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