

No. DFSS/12(22)/2023/ 2177  
Directorate of Forensic Science Services  
Ministry of Home Affairs  
Government of India

Block No 9, 8<sup>th</sup> Floor, CGO Complex  
Lodhi Road, New Delhi-110003  
Dated: 07/08/2023

**Expression of Interest**

The Directorate of Forensic Science Services invites Expression Of Interest(EOI) from manufacturer/principal firm or their authorized Indian agent with valid agency certificate for procurement of following items:-

- (1)Energy Dispersive X-Ray Fluorescence Spectrometer (ED-XRF)  
(Specification as per Annexure-I)

The EOI should contain detailed technical specification along with Brochure of the equipment and its utility for Forensic sample analysis and users list in India. The details of accessories spare part, consumables. Estimated budgetary quotation against each quoted model and last supplied price to Lab/Institution in India if any may be supplied with EOI. Last date for submission of EOI is 23.08.2023 at 3 PM.

The EOI may be addressed to **Director, Central Forensic Science Laboratory, DFSS, DJ-10/1, Action Area-1D, Street No 326, New Town, Kolkata-700160, West Bengal or emailed to [dircfslkol@gmail.com](mailto:dircfslkol@gmail.com).**

No communication in this regard will be entertained after the last date for submission of EOI.

  
(Yoginder Kumar)  
Administrative Officer

Encl: Annexure-I

## Generalised Technical Specification for ED-XRF

Sl.No.	Parameter	Description
1.	Instrument Name	Energy Dispersive – X-Ray Fluorescence (EDXRF) System
2.	Element Detection range	Sodium(11Na) to Uranium (92U) Below Na(11) and above U(92) are also acceptable.
3.	Applications	Non-Destructive analysis of elements in the range Sodium(11Na) to Uranium (92U) of different sample types including Solids, Liquids, pressed and loose powders. The system should hold irregular shaped samples and should be capable for large samples without placing in a sample holder. Capable of spot analysis of sample area of 1mm or more. It should be suitable to analyze various forensic samples like soil, glass, paint, electrical wires, ink, FICN, questioned documents, metals & stones (including precious), GSR element analysis, bullet composition, NDPS substances, post blast/explosive residues, biological materials & fluids, toxic materials /metals etc.
4.	Sample types to be Analysed	Solids, bulk materials, pressed & loose powders, Liquids and Thin films.
5.	X-RAY Tube	a) Air cooled, continuous power 12W to 50W, with Rh/Pd/Ag Target b) X-Ray generator of suitable capacity to excite all elements of range. c) The X-ray tube should preferably be of metal/ceramic insulation.
6.	X-ray Power unit:	a) Voltage: 5 to 50 kV or more, 1 kV step or better b) Current: 1 to 1500 $\mu$ A or more, 1 $\mu$ A step or better c) Power: 12 to 50 Watts or better
7.	Detector & Resolution	a) Peltier Cooled High Performance FSDD/SDD with resolution less than or equal to 150 eV (preferably @ Mn K- $\alpha$ ). b) The detector should be linear to at least 0.2Mcps @5.9KeV without loss of resolution.
8.	Lower Detection Limit	1ppm and up to 100%
9.	Sample Chamber	a) Chamber size: (300(W) $\times$ 250(D) $\times$ 100(H)mm ) or more b) The sample chamber should be able to hold irregular shaped samples and should be capable for holding large samples of minimum 25(W) X 20(D) X10(H) cm height without placing



