EUROPEAN UNION

Delegation of the European Union to Bosnia and Herzegovina

Corrigendum No. 2 to the Tender Dossier

Project title: Laboratory equipment for food control in Bosnia and Herzegovina
Tender No: EC/BiH/09/014; Publication ref: EuropeAid/128355/C/SUP/BA

Following changes in **Annex II + Annex III Technical Specifications and Technical offer** have been made, as listed below:

1) For Item 1.1 Gas Chromatograph – with ECD and NPD detectors

The former text:

Detectors
Electron Capture Detector (ECD)
Electronic Pressure/Flow control
Maximum operating temperature: at least 450^{o}C

Shall read:

Detectors
Electron Capture Detector (ECD)
Electronic Pressure/Flow control
Maximum operating temperature: at least 400^{o}C

2) For Item 1.1 Gas Chromatograph – with ECD and NPD detectors

The former text:

Nitrogen Phosphorus Detector (NPD)
Electronic Pressure Flow Control
Detection Limit : ≤ 0.5 pg N/sec, ≤ 0.2 pg P/sec
Maximum operation temperature: at least 450^{o}C

Shall read:

Nitrogen Phosphorus Detector (NPD)
Electronic Pressure Flow Control
Detection Limit : ≤ 0.5 pg N/sec, ≤ 0.2 pg P/sec
Maximum operation temperature: at least 400^{o}C

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3) For Item 1.2 Gas Chromatograph – Mass Spectrometer (GC/MS)

The former text:

Mass selective detector
Ionization mode: EI (electron impact ionization)
Ionization energy: Filament voltage should be user selectable over the range of 10 – 100 eV
Mono or dual filament system for EI
Mass range: ≤1 – 1000 amu, any subset of this range should be selectable by the user

Shall read:

Mass selective detector
Ionization mode: EI (electron impact ionization)
Ionization energy: Filament voltage should be user selectable over the range of 10 – 100 eV
Mono or dual filament system for EI
Mass range: ≤ 2 – 1000 amu, any subset of this range should be selectable by the user

4) For Item 1.3 High Performance Liquid Chromatography with Fluorescence Detector and Diode Array Detector

The former text:

Solvent Delivery System
Solvent delivery system capable of mixing minimum 2 components of an eluting mixture
Flow range, capable of being set to deliver a flow rate from ≤ 0.1ml to ≥ 5ml/min with ≤ 0.1ml/min increments.
Flow precision at least 0.3% RSD
Composition precision least 0.20% SD
Variable stroke volume The unit must be able to general linear, concave, and convex gradient curves

Shall read:

Solvent Delivery System
Solvent delivery system capable of mixing minimum 2 components of an eluting mixture
Flow range, capable of being set to deliver a flow rate from ≤ 0.1ml to ≥ 5ml/min with ≤ 0.1ml/min increments.
Flow precision at least 0.3% RSD
Composition precision least 0.20% SD
Variable stroke volume or small piston stroke volume **The unit must able to generate either linear, concave and convex gradient curves, or generate linear and step gradient curves.**

5) For Item 1.3 High Performance Liquid Chromatography with Fluorescence Detector and Diode Array Detector

The former text:

Autosampler- Programmable
Fitted with injector with 100 µl sample loop
Injected volume – 0.1 µl to 100 µl
Precision ≤ 0.3% RSD from 5 – 100 µl, ≤ 1% from 1 – 5 µl
Sample capacity: at least 100 sample vials (2 ml)
Column temperature control module
With Peltier effect cooling and heating
Able to maintain a temperature, from 15 degrees below ambient to at least 80 °C
Capable of holding Two (2), 30 cm columns
Fluorescence detector
Excitation wavelength: from ≤ 200 nm to ≥ 700 nm and zero order, bandwidth ≤ 20nm
Emission wavelength: from ≤ 280 nm to ≥ 800 nm and zero order, bandwidth ≤ 20nm
Sensitivity: ≤ 10 fg anthracene LOD
Standard cell volume: =10-15 µl (standard)
Scan speed at least 30ms per data point
Step size: selectable in the range 1 to 20 nm

Wavelength repeatability: ≤ ±0.5nm
Wavelength accuracy: ≤ ±4nm

Shall read:

Autosampler- Programmable
Fitted with injector with 100 µl sample loop
Injected volume – 0.1 µl to 100 µl
Precision ≤ 0.5% RSD from 5 – 100 µl, ≤ 1% from 1 – 5 µl
Sample capacity: at least 100 sample vials (2 ml)
Column temperature control module
With Peltier effect cooling and heating
Able to maintain a temperature, from 10 degrees below ambient to at least 80 °C
Capable of holding Two (2), 30 cm columns
Fluorescence detector
Excitation wavelength: from ≤ 200 nm to ≥ 700 nm and zero order, bandwidth ≤ 20nm
Emission wavelength: from ≤ 280 nm to ≥ 800 nm and zero order, bandwidth ≤ 20nm
Sensitivity: ≤ 10 fg anthracene LOD
Standard cell volume: =8-15 µl (standard)
Scan speed at least 30ms per data point
Step size: selectable in the range 1 to 20 nm
Wavelength repeatability: ≤ ±0.5nm
Wavelength accuracy: ≤ ±4nm

6) For Item 1.4 High Performance Liquid Chromatograph with MS/MS Detector

The former text:

Solvent Delivery System
Minimum 2 components of an eluting mixture
Flow range, capable of being set to deliver a flow rate from ≤ 0.1ml to ≥ 5ml/min with ≤ 0.1 ml/min increments
Flow precision at least 0.3% RSD
Composition precision least 0.20% SD
Variable stroke volume. The unit must be able to generate linear, concave and convex gradient curves
Maximum operating pressure at least 400 bar
Complete with appropriate on-line vacuum degasser
Autosampler- Programmable
Fitted with injector with 100 µl sample loop
Injected volume – 0.1 ml to 100 µl
Precision ≤ 0.3% RSD from 5 – 100 µl, ≤ 1% from 1 – 5 µl
Sample capacity: at least 100 sample vials (2 ml)
Ionisation Mode
Electro Spray Ionization (ESI) and Atmospheric pressure ionization (API)
MS Triple Quadrapole detector
Capable of operating in the MS – MS mode
Analyzer mass range: 5 to 1500 m/z or better
Scan rates: ≤ 500 to ≥ 5000 u/sec Scan speed: 2000 amu/sec or better
Resolution: ≤ unit mass over the entire range
Dynamic range: up to 10^6 cpc
Mass axis stability: ≤ ± 0.2 u over 8 hours
Manifold temperature: independent control; ≤ 25 °C to ≥ 70 °C
Ion detector: capable to fast switching between positive or negative ion detection
Turbomolecular pump: dual stage air cooled

Shall read:

Solvent Delivery System
Minimum 2 components of an eluting mixture
Flow range, capable of being set to deliver a flow rate from ≤ 0.1ml to ≥ 5ml/min with ≤ 0.1 ml/min increments
Flow precision at least 0.3% RSD
Composition precision least 0.20% SD
Variable stroke volume or small piston stroke volume **The unit must be able to generate either linear, concave, and convex gradient curves, or generate linear and step gradient curves.**
Maximum operating pressure at least 400 bar
Complete with appropriate on-line vacuum degasser
Autosampler- Programmable
Fitted with injector with 100 µl sample loop
Injected volume – 0.1 ml to 100 µl
Precision ≤ 0.5% RSD from 5 – 100 µl, ≤ 1% from 1 – 5 µl
Sample capacity: at least 100 sample vials (2 ml)
Column temperature control module
Able to maintain a temperature from 10°C below ambient to at least 80°C
Capable of holding two (2), 30 cm columns
At least 2 columns suitable for the application (analysis of residues of veterinary substances) must be supplied.
Ionisation Mode
Electro Spray Ionization (ESI) and Atmospheric pressure ionization (API)
MS Triple Quadrapole detector
Capable of operating in the MS – MS mode
Analyzer mass range: 10 to 1500 m/z or better
Scan rates: ≤ 250 to ≥ 4000 u/sec Scan speed:2000 amu/sec or better
Dynamic range: up to 10^6 cpc
Mass axis stability: ≤ ± 0.2 u over 8 hours
Sensitivity for reserpine: less than 1,5 pg with s/n 20:1 or greater
Ion detector: capable to fast switching between positive or negative ion detection
~~**Manifold temperature: independent control; ≤ 25 °C to ≥ 70 °C**~~
Turbomolecular pump: dual stage air cooled or backed up by rough pump

7) For Item 2.1 Atomic Absorption Spectrophotometers, Item 2.2 Atomic absorption spectrophotometer flame with Hydride generation accessory:

The former text:

Computer controlled -ports valve

Shall read:

The proposed system must operate automatically under computer control.

All other terms and conditions of Annex II + Annex III Technical Specifications and Technical offer remain unchanged.

The above alterations and/or corrections to the Annex II + Annex III Technical Specifications and Technical offer are integral part of Annex II + Annex III Technical Specifications and Technical offer.