



October 5, 2018

Bid Bulletin No. 1

Subject: Supply, delivery and installation of One (1) unit Atomic Absorption Spectroscopy Dual Flame and Graphite System for RCFSD under PB 18-03-15

This bid bulletin is being issued to clarify the technical specifications of the Atomic Absorption Spectroscopy Dual Flame & Graphite System as inquired by the prospective bidders during the pre-bid conference.

The end-users have agreed to retain the dual flame and graphite system as they will be needing the graphite system for the elemental analysis of food samples requiring very low detection limit (sub-ppb level), which cannot be quantified using a flame atomic absorption system.


Revised Technical Specifications:

Revisions in the technical specifications are as follows:

- Measured wavelength: Range **190 – 900nm**
- Bandwidth: 0.2, 0.7, 1.3, 2.0 nm (4-step automatic switching) **or equivalent**
- Number of lamps: **Minimum of 6-lamp turret** (2 lamps simultaneous lit; 1 for measurement, 1 warming up for the next measurement)
- 3D optical system **or equivalent feature**
- Dimensions: **approximately** 700 W x 600 H x 720 H, mm
- Other accessories/inclusions: **6-single element standard solution at 1000ppm (Fe, Zn, Cu, Mn, Mg, Na)**; 1 set Personal Computer, Core i5, **Licensed Windows 10**, 4GB RAM, 1 TB HDD, 21.5' LED monitor and deskjet printer

Attached is the Revised Technical Specifications for the complete details.

Please be guided accordingly.


EDUARDO JIMMY P. QUILANG
BAC Chairperson



Revised Technical Specifications for PB 18-03-15

Item	Specification	Statement of Compliance
1	<p>Supply, Delivery and Installation of One (1) Unit Atomic Absorption Spectroscopy Dual Flame and Graphite System</p> <p>Technical Specifications:</p> <ul style="list-style-type: none">• Analysis method:<ul style="list-style-type: none">○ Flame continuous method (Furnace/graphite)	<p>Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the provisions of ITB Clause 3 (a)(ii) and/or GCC Clause 12 (a)(ii).</p>



	<ul style="list-style-type: none"> ○ Automatic flame /furnace switching by motor ○ Flame micro sampling (upgradable) ● Optics: <ul style="list-style-type: none"> ○ Optical double-beam system; automatic switching to single beam during furnace measurement ○ Aberration-corrected spectrometer, photomultiplier ● Measured wavelength <ul style="list-style-type: none"> ○ Range: 190-900 nm (automatic wavelength setting via line search) ● Bandwidth: 0.2, 0.7, 1.3, 2.0 nm (4-step automatic switching) or equivalent ● Background correction: High-speed self-reversal method (high speed deuterium lamp method) ● Number of lamps: <ul style="list-style-type: none"> ○ Minimum of 6-lamp turret (2 lamps simultaneous lit; 1 for measurement, 1 warming up for the next measurement) ○ Automatic selection, lamp turret can accommodate single or multiple element lamp ● 3D optical system or equivalent feature: Photometry set automatically to ensure best performance for each measurement method (reduce background noise) ● Automizer position adjustment: automatic ● Computation: Concentration is computed based on the standard calibration method using standard and simple addition method ● Repetitions: Up to 20 repetitions, automatic exclusion of deviant values by setting desired SD and %RSD ● Burner: 10-cm titanium, ceramic nebulizer with impact bead 	
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<ul style="list-style-type: none"> • Positioning of burner: Automatic atomizer switching or automatic search for optimum burner height • Dimensions: approximately 700 W x 600 H x 720 H, mm • Weight: 70-80 Kg • PC controls: Windows 10 based software (upgradable) • Electrical requirements: 220V/60Hz <p>Safety Features:</p> <ul style="list-style-type: none"> • Safe ignition/extinction sequence • Automatic flame extinction via flame vibrator sensor • Flashback prevention through gas pressure monitoring • Automatic prevention of raw gas release when flame dies out • Support for safety inspection through software • System safety mechanism through self-diagnostic function • Burner misuse prevention • Gas controller: independent settings for combustion gas and support gas • Safety mechanism of the unit: <ul style="list-style-type: none"> ○ Cooling water flow rate monitoring (for graphite mode) ○ Gas pressure monitoring, overcurrent prevention device, furnace block cooling check <p>Single Flame and Furnace Autosampler</p> <ul style="list-style-type: none"> • System: Flame/furnace • Functions: Zero-point detection, auto rinse, auto diagnosis, random access • Maximum reagent/ Sample position: <ul style="list-style-type: none"> ○ Reagents: 8 positions ○ Samples: 60 samples <p>Graphite Furnace Atomizer Unit</p> <ul style="list-style-type: none"> • Heating control system: Drying, digital control ashing 	
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<ul style="list-style-type: none"> • Atomization: Digital temperature control via optical sensor (with automatic temperature calibration function) • Heating temperature range: Ambient temperature to 3000°C • Inner gas type: Dual automatic switch type • Cooling water: Cooling water circulation unit <p>Other Accessories</p> <ul style="list-style-type: none"> • 1 set circulation unit • 1 set auto atomizer changer • 10 sets high density graphite tubes • Hollow cathode lamps (Ca, Fe, Pb, K, Ni, Mg) • 6-single element standard solution at 1000ppm (Fe, Zn, Cu, Mn, Mg, Na) • 1 set Personal Computer, Core i5, Licensed Windows 10, 4GB RAM, 1 TB HDD, 21.5' LED monitor and deskjet printer • 1 set hood and ducting with exhaust fan (compatible with the location of the unit) • 1 set air compressor with automatic air regulator • 1 set air filter, dual-stage • 1 set acetylene regulator • 1 set UPS, 3kVa <p>One (1) year warranty for the parts and services from date of installation Training (local) for the end-users</p>	
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