



MISSISSIPPI STATE DEPARTMENT OF HEALTH

April 12, 2017

MEMORANDUM

TO: Bidders for Gas Chromatographs, etc

FROM: Jennifer Dotson, Director
Facilities, Property and Purchasing

AMENDMENT #1 TO MSDH IFB RFx No 3160001438

This correspondence is to make corrections/changes to the Mississippi State Department of Health Invitation for Bid for (2) Gas Chromatograph systems per specifications.

Corrections/changes have been made to Page 2 of the specifications as follows: Language/information in the "Autosampler (one for each GC system)" section, beginning on Page 1 and continued on Page 2, has been revised and also the "Dual Split/splitless injectors" section has been revised.

Corrections/changes have been made to Page 3 as follows: Language/information in the "Software Specifications" section has been revised.

Enclosed is a revised specification section of the IFB. Please replace the original specification section with this "Revised April 12, 2017" specification section.

Please include a copy of this amendment with your bid submission.

REVISED APRIL 12, 2017

RFx No 3160001438 - Specifications for Gas Chromatograph with dual Electron Capture Detector with a dedicated Autosampler

The Mississippi Public Health Laboratory (MPHL) plans to purchase two (2) Gas Chromatograph systems with dual Electron Capture Detector (ECD). Each Gas Chromatograph ECD must be capable of analyzing drinking water by EPA Methods 552.2, 515.4 and 505, processing a minimum of 14 samples in one 8 hour work shift. All components and features for both instruments must be exactly the same or duplicate instruments. The systems must be new and not a refurbished or a demonstration instrument. Quotations in response to the bid must meet the following specifications for each component for each Gas Chromatograph system:

Gas Chromatograph (GC)

- Must feature an external control panel to provide easy accessibility to the GC and immediate interactions with it. The panel must be easy to view from multiple angles, have quick response, and feature workflow icons that follow production workflows.
- The control panel of the GC should provide all needed data, including all temperature and pressure/flow parameters, type of carrier gas, carrier gas column pressure, flow rates, split flow, detector gas flow rates and all detector parameters.
- There must be a dedicated automated routine that allows assisted leak check procedure and a dedicated automated routine allows automatically evaluating and storing the column pneumatic resistance which will allow an automated correction of the nominal column.
- It must be able to calculate the carrier gas linear velocity and the column void time

Autosampler (one for each GC system)

- Must be capable of adding internal standard to the sample injection
- **Must have liquid sample injection modes including regular mode, fast mode and sandwich mode.**
- The Autosampler must offer the option of automatically performing the following operations:
 - **Sample Dilution, with a different liquid present in a vial or solvent reservoir installed on the autosampler**
 - **Standard Dilution, to prepare a calibration curve**
 - **Standard addition, to add internal standards to a sample**
- The autosampler must feature an X-Y-Z axis design without the use of transfer lines
- During stand-by operations syringes must be positioned away from any GC hot source.
- Must have auto alignment
- Must allow installation of two needle length syringes, so as to be able to address any injection mode or injector type.
- Must allow installation and automation of syringes featuring volumes from 0.5 to 1000ul.
- Syringes must be easily changed by operator without any special tools
- Vial capacity of at least 100 2mL vials and 6 wash/waste vials so that samples may be loaded to run over 48 hours.
- Vial Bottom Sensing capability
- The autosampler must include a bar code reader for automatic sample identification and tracking, capable of reading in any vial position.

- The autosampler method, sequences etc. must be performed within the Chromatography Data System without additional external software.
- Must be able to perform sequential injection in two inlets using different methods and injection modes, regardless of the type of injector.
- Must handle any Large Volume injection techniques. (PTV-LV, LV Splitless, LV- On column)
- Must be able to achieve combined multiple solvent rinsing with two (2) or more different solvents.

Dual Split/splitless injectors

- The injectors must be able to operate with capillary, wide bore and packed columns.
- The injector must feature an optimized, modular thermal profile for split and splitless injection with a cold head to allow for quick maintenance.
- ~~The injector must permits large volume splitless injection (up to 50 microliters) without~~ requiring pressure pulse to quantitatively recover the whole sample, and without any further hardware requirement.
- Must support hot/cold split and splitless modes as well as large volume injections (solvent split) and On Column.
- Capable of temperature programming.

Oven (per GC system)

- Must be dual columns with DB-1701 and DB-5.625 columns.
- The column oven must have an operating range of 25°C to 400°C.
- The oven must support a fast start-up to quickly start operations and for power savings:
- The oven mainframe must include all the necessary electrical and gas connections for injectors and detectors without the use of tubing and wires to obstruct the oven top.
- Injectors and detectors positions are clearly defined for a quick user-installation.

Pneumatic controls

- Electronic pneumatic controls must be an integral part of injector and detector.
- Must not require extra tubing and wires to operate electrical valves, and deliver carrier, detector and make-up gases to injectors and detectors.
- The digital carrier gas controller must allow operation in constant and programmed flow and pressure modes.

Helium Saver

- Must be able to reduce the consumption of helium gas during the time the GC is not performing an analytical run (idle time).

Dual Detectors (per GC system)

- The instrument design must allow the user for an easy interchangeability of the detectors by the operator without special tools.
- The GC must have complete integrated control of all parameters (no external control module) for the following detectors: FID, TCD, NPD, ECD.
- The GC must house and be able to operate with two detectors simultaneously on the same oven.

Electron Capture Detector (per GC system)

- Radioactive Source: 370 MBq equal to 10 mCi, ⁶³Ni
- MDL: <6 fg/s lindane
- Linear Dynamic Range: >10⁴ with lindane
- Maximum Temperature: 400 °C in 0.1 °C steps
- Integrated Electronic Controls of the following gases are part of the detector module: 0 to 500 mL/min makeup; Make-up Gas: Nitrogen or 95% argon/5% methane
- Data Acquisition Rate: up to 300 Hz

Computer (computer, monitor, keyboard, mouse and printer for each GC system)

- Windows 7 with monitor, keyboard and mouse
- HP laser printer with duplex capability

Software Specifications

- Must have the ability to operate under Microsoft Windows 7 and or 8.1 operating systems.
- Must have **Chromatography Data System capable of printing reports required by the EPA methods, specically:**
 - **System suitability report:**
 - **Instrument Sensitivity – Signal /Noise**
 - **Chromatographic Performance – Peak Gaussian Factor**
 - **Column Performance – Resolution**
 - **Control Charts of areas and of recovery**
 - **Method Detection Limit Study reports**
- Instrument software updates must be provided free of charge.

Training

- Must have 2 day dedicated on-site training for analytical software.
- Must have 2 day dedicated on-site training for instrument.
- Must have off-site training available for instrument and software.
- Off-site vendor training, if required, must be itemized and included in the quotation.

Installation requirements

- Must be able to operate with electrical requirements of 120V.
- On-site installation must be included in the quotation.
- Instrument must be installed and ready for use by the customer within six weeks of receipt of a purchase order.

Service

- Must provide a toll free telephone number for technical assistance that is accessible Monday through Friday from 8:00 A.M. - 5:00 P.M. CST/CDT.
- Must provide on-site technical assistance within 72 hours of service call.
- Must provide on-site service calls to perform preventive maintenance as required by the manufacturer.
- A service agreement must be available for purchase, after the expiration of the warranty period, throughout the life of the instrument.
- Parts must be available as part of the service agreement or for direct purchase throughout the life of the instrument.