

Date: March 1, 2017

Ref. No.: 150567

**PURCHASING DEPARTMENT  
101 EAST 11<sup>TH</sup> STREET  
SUITE G13  
CHATTANOOGA, TENNESSEE  
37402**

**Request for Proposals (RFP) for the City of Chattanooga**

*Proposals will be received at 101 East 11<sup>th</sup> Street, Suite G13, Chattanooga, TN 37402 until 4:00 P.M., on March 30, 2017*

**Requisition No.: 150567  
Department.: Waste Resources  
Buyer & e-mail: Geoffrey Hipp ghipp@chattanooga.gov**

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**Project: Inductively-Coupled Plasma Optical Emission  
Spectrophotometer**

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**\*\*\*PROPOSALS MUST BE RECEIVED BY\*\*\*  
4:00 P.M., Eastern on March 30, 2017**

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**The City of Chattanooga reserves the right to reject any and/or all proposals,  
waive any informalities in the proposals received, and to accept any  
proposal which in its opinion may be for the best interest of the City.**

**The City of Chattanooga will be non-discriminatory in the purchase of all goods  
and services on the basis of race, color or national origin.**

**The City's Standard Terms and Conditions may be found on website:  
([www.chattanooga.gov/purchasing/standard-terms-and-conditions](http://www.chattanooga.gov/purchasing/standard-terms-and-conditions))**

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**Note: ALL PROPOSALS MUST BE SIGNED**

All proposals received are subject to the terms and conditions contained herein. The undersigned Offeror acknowledges having received, reviewed, and agrees to be bound to these terms and conditions, unless specific written exceptions are otherwise stated.

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**PLEASE PROVIDE THE FOLLOWING INFORMATION:**

**Company Name:** \_\_\_\_\_  
**Mailing Address:** \_\_\_\_\_  
**City & Zip Code:** \_\_\_\_\_  
**Phone/Toll Free No.:** \_\_\_\_\_  
**Fax No.:** \_\_\_\_\_  
**E-Mail Address:** \_\_\_\_\_  
**Contact Person:** \_\_\_\_\_  
**Company Title:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_

# Request for Proposal

## **Inductively-Coupled Plasma Optical Emission Spectrophotometer (ICP-OES)**

**City of Chattanooga, Tennessee**

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**MARCH 2017**



## **Section 1**

### **Introduction**

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**REQUEST FOR PROPOSALS  
FOR AN  
INDUCTIVELY-COUPLED PLASMA  
OPTICAL EMISSION SPECTROPHOTOMETER (ICP-OES)  
AND RELATED EQUIPMENT  
FOR  
MOCCASIN BEND ENVIRONMENTAL LABORATORY  
(02-17)**

**1.0 INTRODUCTION**

**1.1 BACKGROUND**

**A. General**

The Moccasin Bend Environmental Laboratory (MBEL) is a 5,200-square-foot laboratory that provides biological, chemical, and physical analysis of environmental samples in support of various programs and facilities within the City. These include the Moccasin Bend Wastewater Treatment Plant, several landfills (both open and closed), the Water Quality Division, and the Industrial Pretreatment Program. In addition, MBEL has provided services to other municipal programs within the region from time to time.

The laboratory is equipped to conduct wet chemistry tests of conventional pollutants such as BOD, solids (residue), nitrogen, pH, as well as more sophisticated analyses. These include extraction and analysis of organic compounds using gas chromatography/mass spectroscopy and metals analysis using various spectrophotometers. Some analyses are conducted to ensure that waste treatment processes are running efficiently, while others are carried out in order to meet regulatory requirements.

**1.2 PURPOSE OF REQUEST**

This Request for Proposal results from the City's need to replace aging equipment and to move forward to more efficient, up-to-date technology.

Specifically, the City is requesting proposals for:

- An inductively-coupled plasma – optical emission spectrophotometer (ICP-OES), along with autosampler, chiller, and controller capable of meeting the City's environmental monitoring and compliance needs. The proposal must include all necessary equipment and initial supply of consumables (other than argon gas) necessary for analysis.

## **Section 2**

### **Instructions to Proposers**

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## 2.0 INSTRUCTIONS TO PROPOSERS

### 2.1 GENERAL

Two (2) bound copies and one (1) electronic copy of the Proposal shall be submitted.

All Proposals shall be submitted in a sealed envelope or box marked **"PROPOSAL FOR AN INDUCTIVELY-COUPLED PLASMA OPTICAL EMISSION SPECTROPHOTOMETER (ICP-OES) FOR THE MOCCASIN BEND ENVIRONMENTAL LABORATORY"**. All proposals shall be submitted no later than **4:00 p.m. Eastern, on Thursday, March 30, 2017** to:

City of Chattanooga Purchasing  
Attn: Geoffrey Hipp, Buyer  
101 East 11th St., Ste G-13  
Chattanooga, TN 37402

In addition to the price quotes, the content of each proposal shall directly answer whether the equipment proposed by the vendor meets each specification listed in this Request for Proposal. This shall be done using the checkboxes and comment areas under each specification. Please mark each item "Yes" or "No", as appropriate. **Mark "Yes" only if the proposed equipment clearly meets the requirement listed.** For any specification marked "No", use the "Exception" area to specify how your product differs from what is specified. *Incomplete submissions regarding whether or not specifications are met may result in elimination of that proposal from consideration.*

**NOTE:** *RFP responses shall address only the information requested in the RFP. The City is not interested in "fluff" or "filler".*

### 2.2 PROPOSAL WITHDRAWAL PROCEDURE

Proposals may be withdrawn up until the date and time set above for opening of proposals. Any proposal not so withdrawn shall, upon opening, constitute an irrevocable offer for a period of one hundred twenty (120) days to provide the instrument set forth in the proposal or until one of the proposals has been accepted and a contract has been executed between the City and the successful Proposer.

### 2.3 RESERVATION OF CITY RIGHTS

- A. The City reserves the right to request clarification of information submitted and to request additional information of one or more Proposers.
- B. The City reserves the right to negotiate the purchase with the next most qualified finalist if the successful finalist does not execute a contract within fifteen (15) days after submission of a contract to such offer. The City reserves the right to negotiate all elements that comprise the selected Proposer's proposal.

- C. The City reserves the right, after opening the proposals or at any other point during the selection process, to reject any or all proposals, modify or postpone the proposed project, evaluate any alternatives offered or accept the proposal that, in the City's sole judgment, is in its best interest.

## **2.4 REQUESTS FOR ADDITIONAL INFORMATION / CLARIFICATION**

Any requests for additional information or clarification of this request must be directed in writing to the City by **4:00 p.m. Eastern, on Monday, March 13, 2017**. After that time, no further requests for information will be received or responded to. The requests will be addressed to the fullest extent possible by the City in writing and sent to each Proposer by **Friday, March 17, 2017**.

Requests for information or clarification shall be sent to:

City of Chattanooga Purchasing  
Attn: Geoffrey Hipp, Buyer  
101 East 11th St., Ste G-13  
Chattanooga, TN 37402  
or  
e-mail: [ghipp@chattanooga.gov](mailto:ghipp@chattanooga.gov)

The City specifically requests that any contact concerning this Request for Proposal to be made exclusively with the Buyer until selection has been completed. Failure to honor this request will be negatively viewed in the selection process.

## **2.5 SELECTION CRITERIA**

Any proposal not meeting all requirements (specifications expressed as "must") in the proposal will be eliminated from consideration. A specification not met by any Proposer will be withdrawn from consideration. Of those proposals remaining, selection will be based on the following:

- a. The number of "preferred" (not "must") specifications met by the proposal.
- b. How well the proposed solution meets the practical and compliance needs of the City.
- c. Consideration of which proposal is in the best interest of the City, based on the value for the amount of money spent.
- d. Any information gained through contacting references will be considered.

## **Section 3**

### **Proposal Contents**

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### **3.0 PROPOSAL CONTENTS**

#### **3.1 QUALIFICATIONS AND EXPERIENCE**

The Proposer shall provide the following information regarding technical qualifications and experience in manufacturing, maintaining, and servicing metals analysis instruments:

##### **1. General Experience**

Provide an estimate of the number of the Proposer's inductively-coupled plasma optical emission spectrophotometers (ICP-OES) sold or the general number of these metals analysis instruments currently in service, and the approximate distribution, if known, between industrial, environmental, agricultural, pharmaceutical applications (or similar categories).

##### **2. References**

Provide a list of at least three (3) but not more than five (5) references for laboratories that are using or have used the equipment proposed for purchase, providing the following information for each:

- a. Name, address, and phone number of the contact person
- b. Brief description of the type of laboratory
- c. How long the laboratory has been using the equipment
- d. Whether or not the proposer also has a service contract with the laboratory for upkeep of the instrument(s)

##### **3. Lead Time and Installation Time**

Provide an estimate of the lead time for obtaining the instrument – that is, the amount of time expected to pass between placing of the order and delivery of the product. Also, include an estimate of how soon after the instrument arrives a technician would be available to install and validate the instrument and do on-site training.

##### **4. Gas Configuration**

Include recommendations for gas configuration with the sample volume expected (for example, liquid argon versus argon gas tanks). Expected sample volume is ~60 per month.

##### **5. Service information**

Include the number and location of service technicians who are trained to work on the proposed equipment in the region. Indicate whether they work directly for your company or are contracted?

## 3.2 EQUIPMENT SPECIFICATIONS

### A. Spectrophotometer

1. The instrument must be of a bench-top design.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

2. The instrument must offer dual-viewing of the plasma, meaning that it can be viewed radially or axially.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

3. We are a low-volume lab, so the instrument must be able to be turned completely off between uses so that no power or gases are consumed between uses.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

4. The instrument must not use any gases when turned off.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

5. The system must be ready for analysis in 10 minutes or less of a cold start-up.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

6. The instrument (not including the auto-sampler) must not take more than 35 inches of linear bench space.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

7. The system must include a water recirculator or chiller.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

8. The instrument must have a system designed to cut off (shear) the cool end of the plasma tail to reduce self-absorption and physical interferences.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

9. A tail-shearing system using compressed air is *preferable* to those using argon or other gases.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

10. The system *should* include an integrated color camera for viewing the plasma.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

11. The plasma and auxiliary gas flows must be computer-controlled.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

12. The spectrophotometer must be able to determine all desired elements using one analytical method, with multiple wavelengths per element, axially and/or radially.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

#### B. Sample Introduction System

1. The instrument must include a cyclonic spray chamber and concentric nebulizer or Rytan Scott spray chamber with cross-flow nebulizer.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

2. The torch must be mounted vertically to allow for running more complex-matrix samples.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

3. The instrument must include a quick-change torch module so the torch can be removed or changed quickly without excessive torch alignment.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

4. The instrument must include a variable-speed computer-controlled peristaltic pump. The pump must have at least 4 channels to allow for on-line addition of internal standards.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

5. The instrument must be able to accommodate commercially-available specialty nebulizers and spray chambers manufactured by third parties for maximum analytical flexibility and cost savings.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

6. The system must include an autosampler that allows the analyst to start the analysis and then walk away to do other things.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

7. In addition to a sample introduction configuration (torch, nebulizer, spray chamber, etc.) for standard aqueous environmental samples, the system must also include a configuration to handle high-solids samples, if a separate one is needed for these.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

9. A removable injector that is independent of the torch and can be removed without moving the torch is *preferred*.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

10. The autosampler must:

- a. Have a sampling arm that moves the sampling arm in X and Y coordinates simultaneously to minimize time between samples.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

- b. Provide at least 200 vessel positions for samples.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

- c. Have a built-in peristaltic pump for rinsing of the sampling capillary between samples to minimize carry-over.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

C. System Detector

1. The instrument must use a solid-state, charge couple device (CCD) detector that is optimized for performance across the entire emission spectrum.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

2. Each detector pixel must have anti-blooming protection to enable the simultaneous measurement of trace-level analytes in the presence of major matrix constituents.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

3. The detector must be cooled by a Peltier device to enhance instrument performance and detection limits.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

D. Instrument Controller & Software

1. The instrument must include a separate controller.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

2. The controller system must include a large, easy-to-read monitor (21" or larger), color printer, and have the potential to be connected to the City's computer network.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

3. The controller must be a 64-bit system running in the Windows 7 operating system.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

4. The controller system must be able to display all of the peaks from an analysis simultaneously.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

5. The controller system should be capable of saving all data generated with individual sample identification, time & date of analysis, raw & calculated results, statistics, and standard calibration curve data.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

6. All raw data must be saved and the system must allow for post-run re-processing of data.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

7. The controller system must be able to perform automatic background correction.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

8. The controller system must be able to save spectra and a copy of the exact method used for the acquisition of each one.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

9. The controller system must be able to store calibration curves and allow them to be recalled for later use or modification.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

10. The controller system must offer more than one type of background correction.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

E. Miscellaneous

1. The instrument must be new and a model currently in production. Refurbished or demonstrator instruments are not acceptable.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

2. The system *should* include a spares kit that includes commonly-required replacement items and consumables.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

3. The system must include all gas lines (hoses) required for proper operation of the instrument.

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

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#### F. Performance

1. The Proposer must demonstrate calibration at the time of installation.
2. The Proposer must provide assistance in developing method EPA 200.7 following installation.
3. The laboratory currently has a generator that automatically comes on in the event of a loss in line power. The quote must include **options** for a line conditioner or Uninterrupted Power Supply, as recommended by the Proposer, as a separate line item option in the quote. *This item may or may not be purchased with the instrument, at the discretion of the City.*

Specification met? Yes ☐ No ☐ Exception \_\_\_\_\_

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#### G. Training

1. The vendor must include a description of any start-up training included in the price quote and conducted at the vendor's training facility.
2. The vendor must include a description of any start-up training included in the price quote and conducted at the City's laboratory.
3. The vendor must include an **option** for one full day of on-site (at the lab) *applications* training, as an additional cost (specify cost in proposal), the date to be determined by the City of Chattanooga in coordination with the vendor. *The City may or may not request this training.*

#### H. Warranty & Subsequent Service Contracts

1. The vendor must include a description of any warranty included in the price quote. Maintenance or repair covered by the warranty must be performed on-site at the City's laboratory.
2. The vendor must include the cost of anticipated first-year service contract price options once the warranty expires. These options should describe different levels of service available and should cover *all equipment*

*purchased, with a cost break-down per item (i.e. ICP-OES, autosampler, chiller, etc.). Provide a firm quote that will be honored by the vendor for purchase of a service agreement upon expiration of the first-year warranty.*

### **3.3 CITY-SUPPLIED SERVICES**

The City will provide the following as a part of the project:

- A. Electrical and gas connections will be provided as required to install, test, and run the instrument.
- B. City personnel will be on hand to assist in the installation, as needed.

**Chapter No. 817 (HB0261/SB0377). "Iran Divestment Act" enacted.**

**Vendor Disclosure and Acknowledgement**

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to § 12-12-106.

**(SIGNED)**

\_\_\_\_\_

**(PRINTED NAME)**

\_\_\_\_\_

**(BUSINESS NAME)**

\_\_\_\_\_

**(DATE)**

\_\_\_\_\_

**For further information, please see website:**

**[https://www.tn.gov/assets/entities/generalservices/cpo/attachments/List\\_of\\_persons\\_pursuant\\_to\\_Tenn.\\_Code\\_Ann.\\_12-12-106,\\_Iran\\_Divestment\\_Act-July.pdf](https://www.tn.gov/assets/entities/generalservices/cpo/attachments/List_of_persons_pursuant_to_Tenn._Code_Ann._12-12-106,_Iran_Divestment_Act-July.pdf)**

## **Affirmative Action Plan**

The City of Chattanooga is an equal opportunity employer and during the performance of this Contract, the Contractor agrees to abide by the equal opportunity goals of the City of Chattanooga as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.
3. The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. During the term of all construction contracts or subcontracts in excess of \$10,000 to be performed for the City of Chattanooga, the following non-discriminatory hiring practices shall be employed to provide employment opportunities for minorities and women:
  - a. All help wanted ads placed in newspapers or other publications shall contain the phrase "Equal Employment Opportunity Employer".
  - b. Seek and maintain contracts with minority groups and human relations organizations as available.
  - c. Encourage present employees to refer qualified minority group and female applicants for employment opportunities.
  - d. Use only recruitment sources which state in writing that they practice equal opportunity. Advise all recruitment sources that qualified minority group members and women will be sought for consideration for all positions when vacancies occur.

5. Minority statistics are subject to audit by City of Chattanooga staff or other governmental agency.
6. The Contractor agrees to notify the City of Chattanooga of any claim or investigation by State or Federal agencies as to discrimination.

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(Signature of Contractor)

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(Title and Name of Company)

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(Date)