



**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des
soumissions - TPSGC**
11 Laurier St./ 11 rue, Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Scientific, Medical and Photographic Division / Division de
l'équipement scientifique, des produits photographiques et
pharmaceutiques
11 Laurier St./ 11 rue, Laurier
6B1, Place du Portage
Gatineau, Québec K1A 0S5

Title - Sujet Automated Lab Reactor (ALR) system	
Solicitation No. - N° de l'invitation 23240-180380/A	Date 2017-09-18
Client Reference No. - N° de référence du client 23240-180380	
GETS Reference No. - N° de référence de SEAG PW-\$\$PV-899-73437	
File No. - N° de dossier pv899.23240-180380	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-10-31	Time Zone Fuseau horaire Eastern Standard Time EST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Gauthier, Martin	Buyer Id - Id de l'acheteur pv899
Telephone No. - N° de téléphone (613) 404-8642 ()	FAX No. - N° de FAX (819) 956-3814
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie) Signature Date	

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PART 1 - GENERAL INFORMATION

1.1 Requirement

The requirement is detailed under Annex "A".

1.2 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

1.3 Trade Agreements

"The requirement is subject to the provisions of the North American Free Trade Agreement (NAFTA), and the Canadian Free Trade Agreement (CFTA)."

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days
Insert: 90 days

2.1.1 SACC Manual Clauses

SACC Manual clause B1000T (2016-04-04) Condition of Material

2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit at the location specified below, by the date, time and place indicated on page 1 of the bid solicitation.

Bid Receiving - PWGSC

Place du Portage, Phase III, Tower B
11 Laurier Street
Gatineau, Quebec
For couriers: J8X 4A6
For regular mail: K1A 0S5

Telephone: (819) 420-7201
Fax No.: (819) 997-9776

The above address is for the sole purpose of bid submission. No other communications are to be forwarded to this address.

No proposal shall be sent directly to the PWGSC Contracting Authority.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (two (2) copies)
Section II: Financial Bid (one (1) copy)
Section III: Certifications (one (1) copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, Bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that Bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, Bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

The technical bid consists of the following:

- (a) **Supporting Technical documentation:** Technical brochures or technical data to demonstrate compliancy to the requirement as described in Annex "A".
- (b) **List of Products:** Bidders must include a complete product list identifying: the product name; the name of manufacturer; the model and part number of each component which make up the system. Bidders must also state the point of manufacture and shipping of goods or where service is to be performed: The bidder is requested to use the form provided in Annex "C".
- (c) **Installation Plan:** Bidders should include an installation plan (including the installation schedule), which must demonstrate that the Bidder's installation plan meets all the mandatory requirements for installation described Annex "A".
- (d) **Training Plan:** Bidders should include a training plan, which must demonstrate that the Bidder's training plan meets all the mandatory requirements for training described in Annex "A". The training plan must include, at a minimum, a description of the course materials that will be provided to participants; the training schedule; and the duration of the training.

- (e) **Description of the Bidder's Maintenance and Support Services:** Bidders should include a description of its warranty, maintenance and support services, which must be consistent with all the requirements described in Annex "A". At a minimum, Bidders should include the following:
- (i) Location of available service facilities (after sales service and repair). List the service facilities closest to the destination.
 - (ii) Locations of available replacement parts from consumables to major components.
 - (iii) Response time re: service calls, and escalation schedule, i.e. (how many days with no resolution to a problem until a more experienced person is called in, and from which location).
 - (iv) List the frequency of routine maintenance visits provided by a qualified service technician during the warranty period, if applicable and included in the price.

Section II: Financial Bid

- (a) **Pricing:** Bidders must submit their financial bid in accordance with the Basis of Payment including Annex "B" – Pricing Tables.
- (b) **All Costs to be Included:** The financial bid must include all costs for the requirement described in the bid solicitation for the entire Contract Period, including any option years. The identification of all necessary equipment, software, peripherals, cabling and components required to meet the requirements of the bid solicitation and the associated costs of these items is the sole responsibility of the Bidder.
- (c) **Blank Prices:** Bidders are requested to insert "\$0.00" for any item for which it does not intend to charge or for items that are already included in other prices set out in the tables. If the Bidder leaves any price blank, Canada will treat the price as "\$0.00" for evaluation purposes and may request that the Bidder confirm that the price is, in fact, \$0.00. No bidder will be permitted to add or change a price as part of this confirmation. Any bidder who does not confirm that the price for a blank item is \$0.00 will be declared non-responsive.

3.1.1 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex "E" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "E" Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

3.1.2 Exchange Rate Fluctuation

SACC Manual clause C3011T (2013-11-06), Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications and additional information required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Evaluation Criteria

The mandatory technical evaluation criteria are detailed in Annex "A", Part 2.1.

4.1.2 Financial Evaluation

The financial evaluation will be conducted by calculating the Total Aggregated Bid Price in accordance with the pricing tables provided in Annex "B" - Pricing Tables.

4.2 Basis of Selection

- 4.2.1** *SACC Manual* Clause [A0031T](#) (2010-08-16) - Basis of Selection - Mandatory Technical Criteria

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not

completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the [Inteligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969) website ([http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_p](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969)rogram.page?&_ga=1.229006812.1158694905.1413548969).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

There is no security requirement applicable to the Contract.

6.2 Requirement

The Contractor must provide the items detailed under the "Requirement" at Annex "A".

6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

[2010A](#) (2016-04-04), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

6.3.2 Supplemental General Conditions

4003 (2008-05-12) Licensed Software, and
4004 (2008-05-12) Maintenance and Support Services for Licensed Software,

apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Delivery Date

All the deliverables must be received on or before March 15th, 2018.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Martin Gauthier
Public Services and Procurement Canada
Acquisitions Branch
Commercial Consumer Products Directorate
11 Laurier Street, 6A2, Phase III
Place du Portage, Gatineau, Quebec, K1A 0S5

Telephone: 613-404-8642
Facsimile: 819-956-3814
E-mail address: martin.gauthier@pwgsc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6.5.2 Technical Authority *(to be filled in only at contract award)*

The Technical Authority for the Contract is:

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone: ____ ____ ____
E-mail address: _____

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.3 Accounts Payable Contact - *Do you have a specific email address for invoicing?*

Name:
Telephone:
E-mail address:

6.5.4 Contractor's Representative (*to be completed by the bidder*)

The telephone number (with extension if applicable) of the person responsible for:

General enquiries	Delivery Follow-up
Name: _____	Name: _____
Tel. No. _____ ext: _____	Tel. No. _____ ext: _____
E-mail address: _____	E-mail address: _____

6.6 Payment

6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price, as specified in Annex "B" – Pricing Tables for a cost of \$_____ (*to be filled in only at contract award*). Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.6.2 Limitation of Expenditure

SACC Manual clause H1000C (2008-05-12) Single Payment

6.6.3 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- Visa Acquisition Card;
- MasterCard Acquisition Card;
- Direct Deposit (Domestic and International);
- Electronic Data Interchange (EDI);
- Wire Transfer (International Only);
- Large Value Transfer System (LVTS) (Over \$25M)

6.7 Invoicing Instructions

- The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
- Invoices must be distributed as follows:
 - The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
 - One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

- (c) one (1) copy must be forwarded to the consignee.
- (d) To facilitate the payment process, it is important that the Contractor quote the contract number on all the invoices, shipping bills and packing slips. Failure to do so will delay payment and the date used for calculating interest on overdue accounts.

6.8 Certifications and Additional Information

6.8.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

6.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions 2010A (2016-04-04) General Conditions - Goods (Medium Complexity);
- (c) Annex "A", Requirement;
- (d) Annex "B", – Pricing Tables;
- (e) Annex "C", – List of Products.
- (f) the Contractor's bid dated _____ (*insert date of bid*)

6.11 SACC Manual Clauses

SACC Manual clause [B1501C](#) (2006-06-16) Electrical Equipment
SACC Manual clause [A9068C](#) (2010-01-11) Government Site Regulations
SACC Manual clause [A2000C](#) (2006-06-16) Foreign Nationals (Canadian Contractor)
SACC Manual clause [A2001C](#) (2006-06-16) Foreign Nationals (Foreign Contractor)
SACC Manual clause [G1005C](#) (2008-05-12) Insurance

Solicitation No. - N° de l'invitation
23240-180380/A
Client Ref. No. - N° de réf. du client
23240-180380

Amd. No. - N° de la modif.
File No. - N° du dossier
pv899. 23240-180380

Buyer ID - Id de l'acheteur
pv899
CCC No./N° CCC - FMS No./N° VME

6.12 Shipping Instructions

6.12.1 Shipping Instructions - Delivery at Destination

1. Goods must be consigned to the destination specified in the Contract and delivered:

Delivered Duty Paid (DDP) (Ottawa, Ontario) Incoterms 2000 for shipments from a commercial contractor.
2. The Contractor will be responsible for all delivery charges, administration, costs and risk of transport and customs clearance, including the payment of customs duties and taxes.

ANNEX "A"

Part 1 – REQUIREMENT

The Natural Resources Canada has a requirement for the supply of one (1) Automated Laboratory Reactor (ALR) System including the reactor, dosing unit(s), which must meet all of the mandatory technical requirements as specified below and the mandatory evaluation criteria as specified at Part 2.1 - Mandatory Technical Evaluation Criteria. The requirement must include all of the following:

Background:

As part of the Precursor Chemical S&T Program, the Canadian Explosives Research Laboratory (CERL) is periodically required to synthesize explosive compounds from a variety of precursor chemicals. The syntheses typically involve the addition of reagents or catalysts to chemical precursor solutions under tightly controlled conditions, e.g., temperature. The syntheses are hazardous operations and, ideally, should be conducted using remotely controlled instrumentation located behind a protective wall or barrier.

CERL would like to purchase an Automated Laboratory Reactor (ALR) system, which would enable the following:

- Remote operation of the reactor equipment;
- Manual and microprocessor control of reaction conditions, such as heating, cooling, dosing of reagents, stirring and pH;
- Use of various sensors to monitor reaction conditions (e.g., thermocouples, pH electrode) and analyze the chemical or physical nature of reaction product (IR probe or laser-based particle size analysis probe);
- Acquisition, display and storage of real-time reaction data;
- Use of built-in safety relays for triggering emergency shutdown of synthesis sequence, e.g., triggering of emergency cooling;

Part 2.1 - MANDATORY TECHNICAL EVALUATION CRITERIA

The following requirements are the mandatory technical evaluation criteria which will be evaluated during the Bid Evaluation. In addition the Contractor will be required to meet all of the mandatory technical requirements for the duration of the Contract

Bidders are requested to cross reference the mandatory technical criteria in a concise format by using page, paragraph(s) & sub-paragraphs as applicable to their supporting technical documentation.

ITEM	CRITERIA	REFERENCE TO SUBSTANTIATION IN THE TECHNICAL BID.
1.	<p><u>General:</u></p> <ul style="list-style-type: none"> The ALR system, including the reactor, dosing unit(s), control devices and data acquisition and control software must be manufactured, supplied and serviced by a single, ISO 9001 certified vendor; 	
2.	<p><u>Technical Specifications:</u></p> <ul style="list-style-type: none"> The ALR system must be capable of remote operation using a dedicated control module or a networked computer equipped with system control and data acquisition software; 	
3.	<ul style="list-style-type: none"> The ALR system, excluding the control module and networked computer, must be portable and sized to adequately fit within a 122-cm wide fume hood with internal hood dimensions of 87 cm (h) X 100 cm (w) X 55 cm (d); 	
4.	<ul style="list-style-type: none"> The ALR system must operate on a 100-240 VAC, 50/60 Hz power supply. The ALR system must be approved by an accredited certification or evaluation agency for electrical safety according to the requirements of the Ontario Electrical Safety Code. 	
5.	<ul style="list-style-type: none"> The ALR system must be capable of operating over a minimum temperature range of -40 °C to +180 °C and must be able to control the reactor jacket temperature with an accuracy of at least ± 0.1 °C. 	
6.	<ul style="list-style-type: none"> The ALR system must allow multiple modes of temperature control, i.e., via jacket temperature, reaction mass temperature or by distillation control mode. The ALR system must also allow temperature ramping by rate, duration or by exponential. 	
7.	<ul style="list-style-type: none"> The ALR system must allow for the continuous monitoring of the temperature difference between the jacket and the reaction mass. 	

8.	<ul style="list-style-type: none"> The ALR system must be capable of accepting reactors with volumes ranging from at least 250 mL to 500 mL. The vendor must provide 250 mL and 500 mL, two-piece reactors composed primarily of borosilicate glass with the ALR system. 	
9.	<ul style="list-style-type: none"> The ALR housing must allow an illuminated and unobstructed view of the reactor contents and stirring during experiments. 	
10.	<ul style="list-style-type: none"> The ALR system must include a chemically resistant temperature sensor for measuring the temperature of the reaction mass over a temperature range of -40 °C to +200 °C. 	
11.	<ul style="list-style-type: none"> The ALR system must include a pH electrode and cable for measuring the pH of the reaction mass. The ALR system must allow for the use of pH as a means of controlling the addition of reagent from a dosing unit. 	
12.	<ul style="list-style-type: none"> The ALR system must be capable of controlling optional, in-situ spectroscopy and particle-size analysis accessories. 	
13.	<ul style="list-style-type: none"> The ALR system must include at least one programmable, syringe-based dosing unit, which is fully controllable by the dedicated control module or the system data station. The ALR system should be capable of controlling a minimum of four syringe-based dosing units. 	
14.	<ul style="list-style-type: none"> The ALR system must be equipped with appropriate connections to enable the purging of the reactor headspace with an inert gas. Purging of the system with dry air or nitrogen to eliminate icing of the internal components must also be possible. 	
15.	<ul style="list-style-type: none"> The ALR system must include an overhead stirring unit. The speed of stirring must be adjustable over the minimum range of 30 rpm to 1,200 rpm with a minimum accuracy of ± 5 rpm. The overhead stirrer must be able to accommodate a variety of stirrer types. The ALR system must continuously monitor and display qualitative stirrer torque indicators on the dedicated control module or the system data station. The vendor must provide chemically resistant stirring shafts and blades that are compatible with 250 mL and 500 mL reactors. 	
16.	<ul style="list-style-type: none"> The ALR system must enable fully independent control of the reaction parameters, such as heating, cooling, stirring, dosing of reagent(s) and pH, via the dedicated control module or the system data station. The ALR system must also continuously monitor and save reaction data, which must be downloadable via a USB stick or via an Ethernet connection to a computer. 	
17.	<ul style="list-style-type: none"> The control module must be capable of the following: <ul style="list-style-type: none"> Control of all reaction parameters; Configuration and control of system devices and sub 	

	<ul style="list-style-type: none"> ○ devices; ○ Pre-programming of reaction steps and safety control limits to enable unattended operation of the ALR system; ○ Graphically display of monitored reaction parameters; ○ Connection to a data station (PC) with bi-directional communication between control module and the PC control software; 	
18.	<ul style="list-style-type: none"> • The vendor must provide a MS Windows 7 compatible (32-bit and 64-bit) software package which has the following minimum features <ul style="list-style-type: none"> ○ Bi-directional communication between the PC and the ALR system control module; ○ Interactive user interface for control of ALR system components; ○ Ability to pre-program and save multi-step reaction methods; ○ Graphical display of monitored reaction parameters; ○ Ability to export acquired experimental data to office productivity software packages, such as MS Word, Excel and PowerPoint; 	
19.	<ul style="list-style-type: none"> • The vendor must also provide a software maintenance package, which includes the provision of software updates to the latest version, for a minimum of two years. 	
20.	<ul style="list-style-type: none"> • The vendor must provide on-site installation of the ALR system according to factory procedures and must include a verification of ALR system operational performance and basic training on the use of ALR system. 	
21.	<ul style="list-style-type: none"> • The vendor must provide a minimum of two years of preventative maintenance service for the ALR system. 	

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ANNEX "B"

PRICING TABLES

The Bidder must provide all of the pricing requested in the following Tables in accordance with **Article 6.6.1 - Basis of Payment.**

Table 1: Initial Requirement:

Item	Description	Number of Units	Unit of Issue	Firm Unit Price	Extended Price (Number of Units X Firm Unit Price)
1	Automated Laboratory Reactor (ALR) system	1	Each	\$	\$ Number of Units X Firm Unit Price
2	Two years software and preventative maintenance	Two years		\$	\$ Number of Units X Firm Unit Price
3	Total Evaluated Price				Sum of Items 1 and 2

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ANNEX “C”

LIST OF PRODUCTS

Product Name	Model/Part Number	Name of Manufacture		

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ANNEX "D"

COMPLETE LIST OF DIRECTORS
(As per Standard Instructions, Clauses and Conditions Part 2)

Name	Position
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<hr/>	<hr/>
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<hr/>	<hr/>
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ANNEX “E” to PART 3 OF THE BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

As indicated in Part 3, clause 3.1.2, the Bidder must identify which electronic payment instruments they are willing to accept for payment of invoices.

The Bidder accepts any of the following Electronic Payment Instrument(s):

- ☐ VISA Acquisition Card;
- ☐ MasterCard Acquisition Card;
- ☐ Direct Deposit (Domestic and International);
- ☐ Electronic Data Interchange (EDI);
- ☐ Wire Transfer (International Only);
- ☐ Large Value Transfer System (LVTS) (Over \$25M)