



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Travaux publics et Services gouvernementaux
Canada

Place Bonaventure,
800 rue de la Gauchetière Ouest

Voir aux présentes - See herein

Montréal

Québec

H5A 1L6

FAX pour soumissions: (514) 496-3822

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

Travaux publics et Services gouvernementaux Canada
Place Bonaventure,

800 rue de la Gauchetière Ouest

Voir aux présentes - See herein

Montréal

Québec

H5A 1L6

Title - Sujet Bioreactor control Stations	
Solicitation No. - N° de l'invitation 31241-179474/A	Date 2017-07-31
Client Reference No. - N° de référence du client 31241-17-9474	
GETS Reference No. - N° de référence de SEAG PW-\$MTA-030-14459	
File No. - N° de dossier MTA-7-40093 (030)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-09-11	Time Zone Fuseau horaire Heure Avancée de l'Est HAE
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input checked="" type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Pommet, Bruno André	Buyer Id - Id de l'acheteur mta030
Telephone No. - N° de téléphone (514) 496-3802 ()	FAX No. - N° de FAX (514) 496-3822
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: CONSEIL NATIONAL DE RECHERCHES DU CANADA (PORTES 6 & 7) VIA ENTREE RECEPTION MARCHANDISES 6100 AVENUE ROYALMOUNT MONTREAL Québec H4P 2R2 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée .	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



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM		Delivery Req. Livraison Req.	Del. Offered Liv. offerte
						Destination	Plant/Usine		
1	Bioreactor controllers	31241	31241	6	EA	\$	\$.	
2	Options	31241	31241	1	EA	\$	\$.	

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31241-179474/A
Client Ref. No. - N° de réf. du client
31241-179474

Amd. No. - N° de la modif.
File No. - N° du dossier
MTA-7-40093

Buyer ID - Id de l'acheteur
MTA030
CCC No/N° CCC - FMS No./N° VME

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PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There are no security requirements associated with this requirement.

1.2 Statement of Requirement

The Statement of Requirement is detailed in Annex « A » - Requirement (attached).

1.3 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.

1.4 Trade Agreements

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), 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) (<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.

2.1.1 SACC Manual Clauses

B1000T (2014-06-26), Condition of material - Bid

2.2 Submission of Bids

Offers must be submitted, by mail or facsimile, to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the Request for Standing Offers.

You must submit your offer, **by mail or facsimile**, prior to the closing time and date:

By mail at the following address:

Public Services and Procurement Canada
Acquisitions Directorate
800, rue de la Gauchetière Ouest, **Suite 1110**

Montréal, Quebec H5A 1L6

By facsimile, at the following number: (514) 496-3822

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 Quebec.

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 (2 hard copies)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard 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 (Refer to Annexes A and C)

In their technical bid, bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Bid (Refer to Annex B)

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Applicable Taxes must be shown separately.

3.1.1 Electronic Payment of Invoices – Bid (Refer to Annex D)

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

If Annex “D” 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

C3011T (2013-11-06), Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications 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

Every proposal must meet all technical criteria described in Annex A. Technical evaluation will be based on the mandatory technical criteria to be demonstrated detailed in Annex C.

Bidders must complete and include with their proposal the Mandatory Technical Criteria Grid - Annex C.

It is mandatory to provide technical/ descriptive documents and/or technical literature/notes, at the submission of your bid and/or upon Canada request while assessing your bid, for all products offered to allow the technical evaluation. Failure to comply will render your bid non-responsive.

Only proposals that meet mandatory technical criteria detailed in Annex C and that are supported by technical documents will be subject to financial evaluation.

4.1.2 Financial Evaluation

SACC Manual Clause

A0222T (2014-06-26), Evaluation of Price – Canadian / Foreign Bidders

Note:

Items total price (Items A+B+C+D+E = TOTAL) indicated in Annex B - Basis of payment will be included in the financial evaluation. Thus, option goods (C-D-E) will be part of the financial evaluation.

4.2 Basis of Selection

4.2.1 SACC Manual Clause

A0031T (2010-08-16), Basis of Selection – Mandatory Technical Criteria

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with **the lowest evaluated price** will be recommended for award of a contract.

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 (Refer to Annex E attached)

In accordance with the Ineligibility and Suspension Policy (<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_program.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 are no security requirements associated with this requirement.

6.2 Statement of Requirements

The Contractor must provide the requirement in accordance with Annex **A** - Requirement.

6.2.1 Optional Goods and/or Services

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described at **Annex B** of the Contract under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The Contracting Authority may exercise the option at any time before **December 31, 2018** by sending a written notice to the Contractor.

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>) 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

4001 (2015-04-01), Hardware Purchase, Lease and Maintenance

6.4 Term of Contract

6.4.1 Delivery Date (To be completed by the Bidder)

While delivery desired is requested for January 8, 2018, **your best delivery that could be offered is** _____.

6.4.1 Period of contract

The period of the Contract is from date of Contract to December 31, 2018 inclusive.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Bruno André Pommet
Supply Specialist, acting
Public Works and Government Services Canada
Acquisitions Branch
Quebec Regional Office
800 de la Gauchetière Ouest, suite 1110, Montréal (Québec), Canada, H5A 1L6

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Buyer ID - Id de l'acheteur
MTA030
CCC No/N° CCC - FMS No./N° VME

Telephone: (514) 496-3802

Facsimile: (514) 496-3822

E-mail address: brunoandre.pommet@tpsgc-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 Project Authority (to be completed by Canada at the time of award)

The Project Authority for the Contract is:

Name: _____

Title: _____

Organization: _____

Telephone: _____

Facsimile: _____

E-mail address: _____

The Project Authority 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 Project Authority, however the Project 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 Contractor's Representative (To be completed by the Bidder)

Name: _____

Title: _____

Organization: _____

Telephone No.: _____

Facsimile No.: _____

E-mail address: _____

6.6 Payment

6.6.1 Basis of Payment – Firm Unit Prices

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a *firm unit price(s) as specified in contract for a cost of \$*

_____ (*amount will be inserted at contract award*). Customs duties exempt and Applicable Taxes are extra.

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

Delivered at place (DAP) 6100, Royalmount Avenue, Montréal, Québec, H4P 2R2,
Incoterms 2010 for shipments from a commercial contractor.

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 Price

SACC Manual clause: C6000C (2011-05-16), Limitation of Price

6.6.3 Multiple Payments

SACC Manual clauses:

C2602C (2008-05-12), Customs Duties Exempt (National Research Council of Canada)

H1001C (2008-05-12), Multiple Payments

6.6.4 Electronic Payment of Invoices – Contract (Annex D)

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

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI).

6.7 Invoicing Instructions

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.

6.7.1 Invoices must be distributed as follows:

- A) The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.

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 (To be completed by the Bidder)

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. (Insert the name of the province or territory as specified by the Bidder in its bid, if applicable).

6.10 Priority of Documents

If there is a discrepancy between the wordings 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) the supplemental General Conditions 4001 (2015-04-01), Hardware Purchase, Lease and Maintenance;
- (d) Annex «A», Requirement;
- (e) Annex «B», Basis of Payment;
- (f) Annex «C», Mandatory Technical Criteria to be demonstrated;
- (g) the Contractor's bid dated _____ (insert date of bid) (If the bid was clarified or amended, insert at the time of contract award: “, as clarified on _____” or “, as amended on _____” and insert date(s) of clarification(s) or amendment(s)).

6.11 SACC Manual Clauses

SACC Reference	Section	Date
A2000C	Foreign Nationals (Canadian Contractor)	2006/06/16
A2001C	Foreign Nationals (Foreign Contractor)	2006/06/16
B1501C	Electrical Equipment	2006/06/16
C2000C	Taxes – Foreign-based Contractor	2007/11/30
G1005C	Insurance – No Specific Requirement	2016/01/28

ANNEX « A »

REQUIREMENT

1.0 Object

The National Research Council (NRC) wishes to purchase six bioreactor control stations (for non-SIP lab-scale bioreactors), including control screens and software, for the cell culture pilot plant facility in Montreal (Royalmount). These systems will be used in client and internal contracts to develop batch, fed-batch and perfusion processes and will thus generate revenue for the NRC.

The bioreactor controllers must be able to operate autoclavable glass bioreactor vessels as well as single-use (SU) vessels for high operational flexibility (glass or SU vessel), minimal turn-around time (SU vessel) and ensure use of state of the art equipment such as employed by industrial clients and external collaborators. The NRC wishes to:

- Immediately purchase six bioreactor control stations and two control screens (refer to Appendix B);
- **Optionally** purchase before December 31, 2018 (refer to Appendix B, option C):
 - 1- Six single-use kits (all required parts to operate 5 L total volume single-use vessels with the bioreactor control stations);
- **Optionally** purchase before December 31, 2018 (refer to Appendix B, options D & E):
 - 1- Six pH sensors for single-use vessel (5 L total volume)
 - 2- Six DO sensors for single-use vessel (5 L total volume)

The above described new bioreactor systems will replace older outdated SIP bioreactor units with high technical failure rates and thus ensure continuous operation in the cell culture pilot plant facility.

2.0 Constraints

2.1 Space availability for bioreactor control stations:

- Footprint: width = 20 to 45 cm; depth = 50 to 60 cm (per unit)
- Height: 50 to 70 cm (per unit)

3.0 Mandatory technical criteria

The delivered equipment must have the following criteria:

The six bioreactor control stations (including control screen and software) to be purchased must meet the following specifications:

- 3.1. The control stations must be able to operate 5 L or 7.0 – 7.5 L (total volume) autoclavable glass cell culture bioreactor vessels AND 5 to 50 L (total volume) single-use (SU) BioBLU vessels.

-
- 3.2. The control stations must be designed for cell culture applications with the following mass flow controller (MFC) flow ranges and a precision of at least 1%:
 - 3.2.1. At least 4 MFCs, one for each of the following gases: air, O₂, CO₂, N₂. All MFCs must have a range of 0.002 – 1 SLPM (standard liter per minute) or lower.
 - 3.2.2. One additional MFC for either air or a mix of gases (air, O₂, CO₂, N₂). This MFC must have a range of 0.01 – 5 SLPM or lower.
 - 3.3. The MFCs must be operator-exchangeable, i.e. easily changed without programming changes to the control station and automatically recognized by the control station. This design is required to quickly switch between different bioreactor scales (e.g. from 5 L to 14 – 50 L SU bioreactor cultures).
 - 3.4. The control stations must offer the following options for pH and DO control:
 - 3.4.1. DO control: the user must be able to create user-defined cascades with any combination of up to 4 gases;
 - 3.4.2. pH control: the user must be able to create user-defined cascades with combination of CO₂ gas and base pump or acid and base pump.
 - 3.5. The control stations must be able to operate analog or digital or optical pH and DO sensors. From 4 to 6 sensor connections (for use with sensors such as pH, DO, level, foam, pCO₂) must be available. At least one sensor connection must be compatible with Mettler Toledo oxygen sensors and at least one sensor connection must be compatible with Mettler Toledo pH sensors.
 - 3.6. The control stations must be equipped with 4 to 6 integrated easy-load pump heads, operable clockwise AND counter-clockwise at fixed or variable speed. From 3 to 4 pump heads must accommodate tubing sizes of 0.8 – 4.8 mm ID and deliver a maximum flow rate of up to 25 rpm. At least one pump head must accommodate tubing sizes of 0.8 – 6.4 mm ID and deliver a maximum flow rate of up to 100 rpm.
 - 3.7. The control stations must also be able to accommodate 2 to 3 external pumps with the option to be fully controlled by the control station.
 - 3.8. The control stations must be able to accommodate an external load cell scale. The scale weight is to be used by the control station to control the volume/level in the vessel via dedicated pumps.
 - 3.9. The agitation systems must be compatible with magnetic or direct drives.
 - 3.10. The control stations must have a separate control screen (i.e. screen not incorporated into the control station). To minimize the bench space used and to be ergonomic, a maximum footprint of 45 x 60 cm (width x depth) and a maximum height of 70 cm must be respected for the control station. One control screen must be able to operate from 6 to 10 bioreactor systems.
 - 3.11. The control stations must be able to control temperature of the bioreactors by heating and cooling.
 - 3.12. The control stations must be equipped with an Ethernet port to allow remote monitoring and bioreactor control as well as at least two USB ports. The control stations must have OPC connectivity to communicate with our iFix SCADA system.
 - 3.13. The control stations must be CSA or CUL approved for a laboratory environment with IP68 and IP22 rated connections to protect electronic components.

4.0 Deliverables:

- 4.1 Technical documentation: the six bioreactor control stations must be delivered with a total of 2 operating manuals in English.
- 4.2 Training: Operator training on site for 1 to 2 days and for at least 2 operators is required by the manufacturer (English or French).
- 4.3 Standard customer support for questions after installation / training and during use must be included in the offer and available through the manufacturer up to December 31, 2018.

5.0 Delivery and Installation:

The system must be delivered and installed at:
6100, Royalmount Avenue, Montréal, Québec, H4P 2R2.

ANNEX « B »

BASIS OF PAYMENT

	Qty	Unit Price	Total Price
A) Bioreactor control stations	06	_____ \$	_____ \$
B) Control screens	02	_____ \$	_____ \$
Total (A+B)			_____ \$

Option 1:

C) Single-use kit (all required parts to operate 5 L total volume single-use vessels with the bioreactor control stations)	06	_____ \$	_____ \$
--	----	----------	----------

Option 2:

D) pH sensor for single-use vessel (5 L total volume)	06	_____ \$	_____ \$
E) DO sensor for single-use vessel (5 L total volume)	06	_____ \$	_____ \$

Total (C+D+E)			_____ \$
Total (A+B+C+D+E)			_____ \$

****Delivery, installation and training must be included.***

****Customs duties exempt.***

****Applicable taxes extra.***

Note:

Contract will be awarded based on items A & B prices. Option goods' prices (Items C-D-E) may be exercised as mentioned at clause **6.2.1**.

Delivery Address:

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

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Delivered at place (DAP):

6100, Royalmount Avenue, Montréal, Québec, H4P 2R2, Incoterms 2010 for shipments from a commercial contractor.

ANNEX « C »

MANDATORY TECHNICAL CRITERIA TO BE DEMONSTRATED (9)

No.	Mandatory technical criteria	Compliant	Non-compliant	Reference: Please specify where can be found these 9 criteria within your technical/ descriptive documents and/or technical literature/notes.
3.1	The control stations must be able to operate 2.5 to 14 L (total volume) autoclavable glass cell culture bioreactor vessels AND 1.5 to 50 L (total volume) single-use (SU) BioBLU vessels.			
3.2	<p>The control stations must be designed for cell culture applications with the following mass flow controller (MFC) flow ranges and a precision of at least 1%:</p> <p>3.2.1. At least 4 MFCs, one for each of the following gases: air, O₂, CO₂, N₂. All MFCs must have a range of 0.002 – 1 SLPM (standard liter per minute) or lower.</p> <p>3.2.2. One additional MFC for either air or a mix of gases (air, O₂, CO₂, N₂). This MFC must have a range of 0.01 – 5 SLPM or lower.</p>			
3.3	The MFCs must be operator-exchangeable, i.e. easily changed without programming changes to the control station and automatically recognized by the control station. This design is required to quickly switch between different bioreactor scales (e.g. from 1 – 5 L to 14 – 50 L SU bioreactor cultures).			
3.4	<p>The control stations must offer the following options for pH and DO control:</p> <p>3.4.1. DO control: the user must be able to create user-defined cascades with any combination of up to 4 gases</p> <p>3.4.2. pH control: the user must be</p>			

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	able to create user-defined cascades with combination of CO2 gas and base pump or acid and base pump.			
3.6	The control stations must be equipped with 4 to 6 integrated easy-load pump heads, operable clockwise AND counter-clockwise at fixed or variable speed. From 3 to 4 pump heads must accommodate tubing sizes of 0.8 – 4.8 mm ID and deliver a maximum flow rate of up to 25 rpm. At least one pump head must accommodate tubing sizes of 0.8 – 6.4 mm ID and deliver a maximum flow rate of up to 100 rpm.			
3.7	The control stations must also be able to accommodate 2 to 3 external pumps with the option to be fully controlled by the control station.			
3.8	The control stations must be able to accommodate an external load cell scale. The scale weight is to be used by the control station to control the volume/level in the vessel via dedicated pumps.			
3.10	The control stations must have a separate control screen (i.e. screen not incorporated into the control station). To minimize the bench space used and to be ergonomic, a maximum footprint of 45 x 60 cm (width x depth) and a maximum height of 70 cm must be respected for the control station. One control screen must be able to operate 6 to 10 bioreactor systems.			
3.12	The control stations must be equipped with an Ethernet port to allow remote monitoring and bioreactor control as well as at least two USB ports. The control stations must have OPC connectivity to communicate with our iFix SCADA system.			

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ANNEX « D »

ELECTRONIC PAYMENT INSTRUMENTS

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

- ☐ () VISA Acquisition Card;
- ☐ () MasterCard Acquisition Card;
- ☐ () Direct Deposit (Domestic and International);
- ☐ () Electronic Data Interchange (EDI).

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ANNEX « E »

COMPLETE LIST OF COMPANY BOARD OF DIRECTORS

NOTE TO BIDDERS

WRITE ALL DIRECTOR'S SURNAMES AND GIVEN NAMES IN BLOCK LETTERS

PROCUREMENT - BUSINESS NUMBER (PBN) : _____