

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 0A1 / Noyau 0A1
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

E-mail/Courriel : mark.walton@tpsgc-pwgsc.gc.ca

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 AUTOMATIC VISCOMETER	
Solicitation No. - N° de l'invitation H4091-123452/A	Date 2013-01-28
Client Reference No. - N° de référence du client H4091-123452	
GETS Reference No. - N° de référence de SEAG PW-\$\$PV-903-62055	
File No. - N° de dossier pv903.H4091-123452	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-03-11	
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: Walton, Mark	Buyer Id - Id de l'acheteur pv903
Telephone No. - N° de téléphone (819) 956-3813 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: HEALTH CANADA PRODUCT SAFETY LABORATORY 1800 WALKLEY RD OTTAWA Ontario K1A 0L2 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée 2013-03-28	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 Destination Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	AUTOMATIC VISCOMETER , IN ACCORDANCE WITH THE MANDATORY SPECIFICATIONS AT ANNEX "A "	H4091	H4091	1	Each	\$XXXXXXXXXXXX	2013-03-28	

TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION

1. Security Requirement
2. Requirement
3. Debriefings

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions
2. Submission of Bids
3. Enquiries - Bid Solicitation
4. Applicable Laws

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures
2. Basis of Selection

PART 5 - CERTIFICATIONS

1. Mandatory Certifications Required Precedent to Contract Award
2. Additional Certifications Required with the Bid

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement
2. Requirement
3. Standard Clauses and Conditions
4. Term of Contract
5. Authorities
6. Payment
7. Invoicing Instructions
8. Certifications
9. Applicable Laws
10. Priority of Documents
11. SACC Manual Clauses
12. Shipping Instructions - Delivery at Destination

List of Annexes:

Annex A Requirement

PART 1 - GENERAL INFORMATION

1. **Security Requirement:** There is no security requirement associated with the requirement.
2. **Requirement:** The Contractor must provide the items detailed under the "Line Item Detail", and further detailed in the mandatory performance specifications at Annex "A".

3. Debriefings

After contract award, 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 of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

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 (2012-11-19) 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: sixty (60) days
- Insert: ninety (90) days

2. Submission of Bids

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

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 questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

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

1. Bid Preparation Instructions

Section I: Technical Bid

The following applies to the Requirement and bidders must provide the following information in the bid where applicable:

1.1.1 Installation

On-site installation must be provided and shall be carried out by a qualified service technician.

State your best installation schedule. Installation will be carried out within _____ calendar days of delivery and be completed within _____ calendar days.

1.1.2 Manuals

One complete set of user documentation in either English or French must be supplied with each system.

1.1.3 Training

On-site user training must be provided for up to 5 users. All costs associated with the on-site training must be included in the price.

On-site training will be completed within _____ calendar days of installation. Provide complete details of training e.g. duration, scope, etc.,

1.1.4 Service

Purchase of the system must include: regional technical support; technical phone support; support via the Internet; and support via a fax-back document system.

Response for service shall be within 24 hours or less.

Also, provide the following with your bid:

- a) Location of available service facilities (after sales service and repair). List the service facilities closest to the destination.

- b) Locations of available replacement parts from consumables to major components.

- c) 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).

- d) List the frequency of routine maintenance visits provided by a qualified service technician during the warranty period, if applicable and included in the price.

1.1.5 Product(s) Offered

The Bidder must indicate the make and model number of the products offered (identify specific components which make up the system):

Name of Manufacturer: _____

Model/Part Number: _____

Literature attached: Yes (____) No (____)

1.1.6 Point of Manufacture/Shipping

The Bidder must state the point of manufacture/shipping of goods or where service is to be performed:

Location: _____

Postal Code: _____

1.1.7 Delivery

While delivery is requested by **March 28, 2013**, the best delivery that could be offered by the Bidder is _____.

1.1.8 Software Upgrades (If applicable)

The contractor shall provide all software updates and new releases to the purchaser for a period of _____ year(s) following the acceptance, at no additional cost.

Note: The word "updates" means all enhancements, extensions or other modifications to the software. The word "releases" means enhancements or modifications to the software or new modules or supplementary modules that function in conjunction with the software, that represent the next generation of software, and which the Contractor has decided to make available to its customers usually for an additional charge.

1.1.9 Contacts

Bidders are requested to provide the following: Information pertaining to Article 5.3 Contractor Representatives under Part 6, Resulting Contract Clauses.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) must be shown separately, if applicable.

1.1 Exchange Rate Fluctuation

- C3011T (2010-01-11), Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**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.

1.1 Technical Evaluation

Factors for Evaluation

1. PRICING BASIS (MANDATORY): Prices must be firm, DDP Delivered Duty Paid.
2. ABILITY TO MEET THE TECHNICAL REQUIREMENT (MANDATORY):
 - a) **For Items Defined by Specifications:** The bidder is requested to cross reference the mandatory technical criteria contained herein to their supporting technical documentation.
 - b) **Provision of Supporting Technical Documentation:** Supporting technical documentation for the stores offered shall be provided with the bid at time of bid closing. Technical brochures or technical data MUST be provided to verify compliancy to the technical mandatory specifications.
3. COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS REQUEST FOR PROPOSAL (MANDATORY)
4. FOR CANADIAN SUPPLIERS ONLY: Please note that the requirements of the Federal Contractors Program for Employment Equity may apply - see herein. (MANDATORY if applicable)

1.1 Technical Evaluation

1.1.1 Mandatory Technical Criteria

- Technical Compliance
- Compliance with Pricing Basis
- Proposal complete and signed
- Employment Equity

1.2 Financial Evaluation

- *SACC Manual* Clause A0220T (2007-05-25), Evaluation of Price

2. Basis of Selection

2.1 SACC Manual Clauses

SACC Reference	Title	Date
A0069T	Basis of Selection	2007-05-25

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and related documentation to be awarded a contract. Canada will declare a bid non-responsive if the required certifications and related documentation are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications, to provide the related documentation or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

1. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

1.1.1 By submitting a bid, the Bidder certifies, for himself and his affiliates, to be in compliance with the Code of Conduct and Certifications clause of the Standard instructions. The related documentation hereinafter mentioned will help Canada in confirming that the certifications are true. By submitting a bid, the Bidder certifies that it is aware, and that its affiliates are aware, that Canada may request additional information, certifications, consent forms and other evidentiary elements proving identity or eligibility. Canada may also verify the information provided by the Bidder, including the information relating to the acts or convictions specified herein, through independent research, use of any government resources or by contacting third parties. Canada will declare non-responsive any bid in respect of which the information requested is missing or inaccurate, or in respect of which the information contained in the certifications is found to be untrue, in any respect, by Canada. The Bidder and any of the Bidder's affiliates, will also be required to remain free and clear of any acts or convictions specified herein during the period of any contract arising from this bid solicitation.

Bidders who are incorporated, including those bidding as a joint venture, must provide with their bid or promptly thereafter a complete list of names of all individuals who are currently directors of the Bidder. Bidders bidding as sole proprietorship, including those bidding as a joint venture, must provide the name of the owner with their bid or promptly thereafter. Bidders bidding as societies, firms, partnerships or associations of persons do not need to provide lists of names. If the required names have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

Canada may, at any time, request that a Bidder provide properly completed and Signed Consent Forms ([Consent to a Criminal Record Verification](http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html) form- PWGSC-TPSGC 229) (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>) for any or all individuals aforementioned within the time specified. Failure to provide such Consent Forms within the time period provided will result in the bid being declared non-responsive.

2. Additional Certifications Required with the Bid

Bidders must submit the following duly completed certifications with their bid.

2.1 Federal Contractors Program - over \$25,000 and below \$200,000

Suppliers who are subject to the Federal Contractors Program (FCP) and have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive federal government contracts over the threshold for solicitation of bids as set out in the Government Contracts Regulations. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce to less than 100 employees. Any bids from ineligible contractors, including a bid from a joint venture that has a member who is an ineligible contractor, will be declared non-responsive.

The Bidder, or, if the Bidder is a joint venture the member of the joint venture, certifies its status with the FCP, as follows:

The Bidder or the member of the joint venture

- (a) () is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;
- (b) () is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;
- (c) () is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC, having not bid on requirements of \$200,000 or more;
- (d) () has not been declared an ineligible contractor by HRSDC, and has a valid certificate number as follows: _____.

Further information on the FCP is available on the HRSDC Web site:

<http://www.hrsdc.gc.ca/eng/labour/equality/fcp/index.shtml>

Signature of authorized representative: _____. *Date:* _____

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement: There is no security requirement associated with the requirement.

2. Requirement: The Contractor must provide the items detailed under the "Line Item Detail", and further detailed in the mandatory performance specifications at Annex "A".

2.1 Service

- a) Location of available service facilities (after sales service and repair). Service facilities closest to the destination.
- b) Locations of available replacement parts from consumables to major components.
- c) 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).
- d) List the frequency of routine maintenance visits provided by a qualified service technician during the warranty period, if applicable and included in the price.

2.2 Installation

On-site installation must be provided and shall be carried out by a qualified service technician within __ days after delivery and be completed within __ days..

2.3 Manuals

Manuals are considered a part of the equipment. One (1) operator and one (1) service manual (paper or CD-ROM format), in English or French, must be sent together with the equipment.

2.4 Training

On-site user training must be provided for up to _____ users within __ days of installation.

2.5 Software Upgrades

The contractor shall provide all software updates and new releases to the purchaser for a period of _____ year(s) following the acceptance, at no additional cost.

Note: The word "updates" means all enhancements, extensions or other modifications to the software. The word "releases" means enhancements or modifications to the software or new modules or supplementary modules that function in conjunction with the software, that represent the next generation of software, and which the Contractor has decided to make available to its customers usually for an additional charge.

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.

3.1 General Conditions

2010A (2012-11-19), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

4. Term of Contract

4.1 Delivery Date

All the deliverables must be received on or before (*date to be inserted at contract award*).

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Mark Walton

Supply Officer

Public Works and Government Services Canada

Acquisitions Branch

Commercial Consumer Products Directorate

Scientific, Medical, and Photographic Division "PV"

11 Laurier Street,

6A2, Phase III, Place du Portage,

Gatineau, Quebec, K1A 0S5

Telephone: 819-956-3813

Facsimile: 819-956-3814

E-mail address: mark.walton@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.

5.2 Technical Authority: To be identified at contract award

The Technical 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 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.

5.3 Contractor's Representative (*Bidder to complete*)*The telephone number of the person responsible for:***General enquiries**

Name: _____

Telephone No. _____

Facsimile No. _____

E-mail address: _____

Delivery Follow-up

Name: _____

Telephone No. _____

Facsimile No. _____

E-mail address: _____

6. Payment**6.1 Basis of Payment - Firm Unit Price(s)**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid the firm unit price(s), as specified in the contract, for a cost of \$ (*amount to be inserted at contract award*). Customs duties are included, and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

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.

6.2 SACC Manual Clause

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

7. Invoicing Instructions

1. 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.

2. 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.

(b) One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

8. Certifications**Compliance**

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification, provide the related documentation or if it is determined that any certification made by the Contractor in its bid is

untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

9. Applicable Laws

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

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 (2012-11-19), General Conditions - Goods (Medium Complexity)
- (c) Requirement, including the mandatory performance specifications at Annex "A".
- (d) the Contractor's bid dated _____

11. SACC Manual Clauses

SACC Reference	Title	Date
A2000C	Foreign Nationals (Canadian Contractor)	2006-06-16
A9068C	Government Site Regulations	2010-01-11
B1501C	Electrical Equipment	2006-06-16

12. Shipping Instructions - Delivery at Destination

Goods must be consigned to the destination specified in the Contract and Delivered Duty Paid (DDP) Ottawa, Ontario, Incoterms 2000 for shipments from a commercial contractor.

ANNEX "A"**MANDATORY PERFORMANCE SPECIFICATIONS
FOR AUTOMATIC VISCOMETER**

Purchase of an automatic viscometer that allow to measure directly kinematic viscosity according to ASTM standard D445.

NOTE: BIDDERS MUST INDICATE CLEARLY WHERE THEIR BID OR ANY ATTACHMENT THERETO STATES THAT THE ITEM(S) OFFERED MEET(S) EACH OF THE FOLLOWING MANDATORY SPECIFICATIONS. FAILURE TO DO SO, OR NON-COMPLIANCE WITH ANY OF THEM, WILL RENDER YOUR BID NON-RESPONSIVE.

Technical specifications:

Health Canada's Product Safety Laboratory is looking to acquire a desktop automated viscometer that meets the ASTM standard D445 precision specifications: bath temperature accuracy better than 0.01°C between 20°C and 100°C, and the automated wash and dry procedures associated with the above standard.

- The instrument must be computer controlled that allow the automation of the instrument and the transfer of data to the computer database (see below for details).

PROPOSAL REFERENCE: _____

- The instrument must allow the analysis of opaque liquids with the same viscosity tubes that prevent the change of tubes between transparent and opaque liquids.

PROPOSAL REFERENCE: _____

- The analysis of liquids must require a maximum of 10 mL or less, to allow testing sample with a limited amount of material. **PROPOSAL REFERENCE:** _____
- The instrument must operate on 115 V, 50/60 hz.

PROPOSAL REFERENCE: _____

Bid must include:

- Automatic viscometer that has a selectable temperature range between 30°C and 100°C of wider **PROPOSAL REFERENCE:** _____

- Viscometer tube that cover the range between 3 cSt and 200 cst (centistokes) or wider

PROPOSAL REFERENCE: _____

- Dual solvent capability (solvent container not included)

PROPOSAL REFERENCE: _____

- Digital thermometer **PROPOSAL REFERENCE:** _____

- Liquid waste receiver assembly **PROPOSAL REFERENCE:** _____

- One set of calibration standards **PROPOSAL REFERENCE:** _____

-
- Software to control the viscometer and that allow the automatic transfer of data to a computer via a RS-232 serial connection or other suitable connection (computer and accessories such as display, keyboard and mouse are not included in the bid).

PROPOSAL REFERENCE: _____

- Thermoelectric cooling or other cooling device that will allow to test at temperature below 40°C and rapid cool-down **PROPOSAL REFERENCE:** _____
- Two heated drains to allow easy withdrawal of heavier samples.

PROPOSAL REFERENCE: _____

- Installation and training for up to 5 analysts by the provider.

PROPOSAL REFERENCE: _____

Budget:

- The budget allocated for the acquisition of the automatic viscometer with a thermoelectric cooling device is not to exceed \$35.K. **PROPOSAL REFERENCE:** _____