



RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
**Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada**
Room 100,
167 Lombard Ave.
Winnipeg
Manitoba
R3B 0T6
Bid Fax: (204) 983-0338

**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

Title - Sujet Electronic Testing Instruments	
Solicitation No. - N° de l'invitation A7100-163752/B	Date 2017-02-22
Client Reference No. - N° de référence du client A7100-163752	
GETS Reference No. - N° de référence de SEAG PW-\$WPG-016-10178	
File No. - N° de dossier WPG-6-39203 (016)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-02-24	Time Zone Fuseau horaire Central Standard Time CST
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: Hall, Marlene	Buyer Id - Id de l'acheteur wpg016
Telephone No. - N° de téléphone (204) 230-0147 ()	FAX No. - N° de FAX (204) 983-7796
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: INDIGENOUS AND NORTHERN AFFAIRS CANADA 14TH FLOOR, RM 1402B 15 EDDY ST GATINEAU Quebec K1A0H4 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Public Works and Government Services Canada - Western
Region
Room 100
167 Lombard Ave.
Winnipeg
Manitoba
R3B 0T6

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

This bid solicitation cancels and supersedes previous bid solicitation number A7100-163752/A dated December 23, 2016 with a closing of February 6, 2017 at 02:00 PM CDT. A debriefing or feedback session will be provided upon request to bidders who bid on the previous solicitation.

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PART 1 - GENERAL INFORMATION

1.1 Requirement

The requirement is detailed under Article 6.2 of the resulting contract clauses.

1.2 Comprehensive Land Claims Agreement(s)

This procurement is subject to the following Comprehensive Land Claims Agreement(s):

- Agreement Between The Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada

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 North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT).

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](#) (2016-04-04) 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: 120 days

2.1.1 SACC Manual Clauses

B1000T (2014-06-26) Condition of Material – Bid

2.2 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.

2.2.1 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least 15 days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 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 Manitoba.

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.

2.5 Bidders' Conference

A bidders' conference will be held on January 12, 2017 to provide information and opportunities for bidders to ask questions about the solicitation and the procurement process. Supplier's attendance is optional. The bidders' conference will be held at Public Works and Government Services Canada (PWGSC), 167 Lombard Avenue, Winnipeg, Manitoba via web-ex and teleconference. The bidders' conference will begin at 10:00 am Central Standard Time.

Bidders are requested to communicate with the Contracting Authority before the conference to confirm attendance and receive teleconference and web-ex instructions. Bidders should provide, in writing, to the Contracting Authority, the name(s) of the person(s) who will be attending and a list of issues they wish to table no later than January 10, 2017 at 2:00 pm CST.

Any clarifications or changes to the bid solicitation resulting from the bidders' conference will be included as an amendment to the bid solicitation. Bidders who do not attend will not be precluded from submitting a bid.

Contracting Authority: Marlene Hall
Telephone: 204-230-0147
Email: marlene.hall@pwgsc-tpsgc.gc.ca

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 (1 hard copy)

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

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

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

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

If Annex "C" 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 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 Criteria

- (a) Bidder must be able to perform the full scope of the work described in the Annex A, Requirement and meet the Minimum Mandatory Performance Specifications detailed in Annex A.
- (b) Bidder must complete the Compliance Matrix detailed in Annex A, Requirement. Completion is defined as indication of compliance to each mandatory criterion as outlined in Annex A, Requirement.

4.1.2 Financial Evaluation

SACC Manual Clause [A0220T](#) (2014-06-26), Evaluation of Price

4.2 Basis of Selection

4.2.1 Basis of Selection – Mandatory Technical Criteria

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 [Ineligibility 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.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex [Federal Contractors Program for Employment Equity - Certification](#), before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

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

6.1.1 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.

6.4 Term of Contract

6.4.1 Delivery Date

All the deliverables must be received on or before March 31, 2017.

6.4.2 Comprehensive Land Claims Agreement(s)

This procurement is subject to the following Comprehensive Land Claims Agreement(s):

- Agreement Between The Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada

6.4.3 Delivery Points

Delivery of the requirement will be made to delivery point(s) specified at Annex "A" of the Contract.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Marlene Hall
Procurement Specialist
Public Works and Government Services Canada
Acquisitions Branch
100 - 167 Lombard Avenue
Winnipeg, MB. R3B 0T6

Telephone: 204 230-0147
Fax: 204 983-7796
Email: marlene.hall@pwgsc-tpsgc.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

The Project Authority for the Contract is: *A contact to be named at date of contract issuance*

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

Name: _____
Title: _____
Organization: _____
Address: _____
Telephone: _____
Facsimile: _____
Email: _____

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(s), as specified in Annex B of \$_____. 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 Single Payment

SACC *Manual* clause [H1000C](#) (2008-05-12) Single Payment

6.6.3 Inspection and Acceptance

The Technical Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or representative. Should any report, document, good or service not be in accordance with the requirements of the Statement of Work and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.

6.6.4 Electronic Payment of Invoices – Contract

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

- a. Direct Deposit (Domestic and International)

6.7 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.

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 Manitoba.

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, Basis of Payment;
- (e) the Contractor's bid dated _____.

6.11 SACC Manual Clauses

B1501C	(2006-06-16)	Electrical Equipment
B7500C	(2006-06-16)	Excess Goods
C2000C	(2007-11-30)	Taxes – Foreign-based Contractor
C5201C	(2008-05-12)	Prepaid Transportation Costs
D4002C	(2013-04-25)	Shipping Instructions-Free on Board Destination and delivered Duty Paid
G1005C	(2016-01-28)	Insurance – No Specific Requirement

ANNEX "A" - REQUIREMENT

The Canadian High Arctic Research Station (CHARS) has a requirement for the supply and delivery of Electronic Testing Instruments.

A complete list of the mandatory technical specifications is detailed in the Compliance Matrix.

Delivery, FOB Destination: Wills Transfer Ltd.
3100 Swansea Crescent
Ottawa, ON. K1G 3W4
(613) 744-0970 ext. 201
c/o Claudette Weedmark

Delivery of the Electronic Testing Instruments to be coordinated with the Project Authority and must be delivered to Wills Transfer Ltd **on or before March 31, 2017**. (Project Authority contact information to be provided at time of contract award).

Instructions:

A complete list of the minimum mandatory technical specifications are detailed in each Stream of the Compliance Matrix.

1. Bidders are to provide supporting technical documentation for the specifications detailed in the Compliance Matrix, and cross-reference where the supporting documentation is found within the proposal to demonstrate compliance. Bidders are to clearly demonstrate compliance with the specifications.
2. Supporting technical documentation, such as specification sheets, technical brochures, and photographs or illustrations should provide adequate detail to substantiate that the goods offered meet the technical requirements. It is the Bidders responsibility to ensure that the submitted technical documentation provides adequate detail to prove that the proposed product(s) meet the requirements of the technical specification. If specific published technical documentation is not available, the Bidder should prepare a written narrative complete with a detailed explanation of how its bid demonstrates technical compliance.
3. If the complete specification and/or literature is not submitted as requested, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.
4. Canada will not evaluate information such as references to Web site addresses where additional information can be found.
5. Bidders must address any concerns with the Specifications in written detail to the Contracting Authority before bid closing as outlined in the Request for Proposal (RFP) document.
6. Failure to meet the minimum mandatory specifications will result in your proposal being deemed non-responsive, and be given no further consideration in the evaluation process.

Compliance Matrix – MINIMUM MANDATORY PERFORMANCE SPECIFICATIONS:

	<p><u>Completion and submission of Mandatory Performance Specification is required to be considered responsive and for your offer to be given further consideration.</u></p> <p>a. Bidder must cross reference where in their technical offer, the performance specification is located.</p> <p>b. Provide the specification being offered which meets or exceeds <u>and cross-reference as to where the supporting documentation is found within your proposal</u>. If there is insufficient space in the table, assign SIR # (Supplementary Information Reference) and provide the appropriate details on a separate page in your offer. Where published supporting documentation is not available in the form of brochures, technical data sheets etc., prepare a written narrative complete with a detailed explanation of how its offer demonstrates compliance.</p>	
	<p><u>All work and materials herein specified must meet and maintain minimum Canadian and Provincial certification(s) and approval(s) as applicable by Industry Standards.</u></p>	
Item	Specifications	Bidder Response: indicate how they meet the specifications addressed below/ cross-reference where this technical specification is indicated in their bid documentation
1	Dynamic Signal Analyzer	
1.1	<p>Power & Current:</p> <ul style="list-style-type: none"> • DC power: 12 VDC to 28 VDA nominal 200 VA maximum • AC Power: 90 Vrms - 264 Vrms (47 - 440 Hz) 350 VA maximum • DC current at 12 V: <ul style="list-style-type: none"> ○ Standard: <10 A typical ○ 4 channel: <12A typical • Warm-up time: 15 minutes 	
1.2	<p>Physical items:</p> <ul style="list-style-type: none"> • Dimensions (Excluding bail handle and impact cover) <ul style="list-style-type: none"> ○ Height: 190 mm (7.5") ± 10% ○ Width: 340 mm (13.4") ± 10% ○ Depth: 465 mm (18.3") ± 10% 	
1.3	<p>Ambient temp:</p> <ul style="list-style-type: none"> • Operating <ul style="list-style-type: none"> ○ Disk in drive: 4 °C to 45 °C ○ No disk in drive: 0 °C to 55 °C • Storage & transport: -40 °C to 70 °C 	

1.4	<p>Relative humidity:</p> <ul style="list-style-type: none"> • Minimum <ul style="list-style-type: none"> ○ Operating: Disk in drive 20% ○ Operating: No disk in drive 15% ○ Storage & transport: 5% • Maximum <ul style="list-style-type: none"> ○ Operating: Disk in drive 80% at 32 °C ○ Operating: No disk in drive 95% at 40 °C ○ Storage & transport: 95% at 50 °C 	
1.5	<p>Vibrations (5 - 500 Hz):</p> <ul style="list-style-type: none"> • Operating: <ul style="list-style-type: none"> ○ Disk in drive: 0.6 Grms ○ No disk in drive: 1.5 Grms • Storage & transport: 3.41 Grms 	
1.6	<p>Shock:</p> <ul style="list-style-type: none"> • Operating: <ul style="list-style-type: none"> ○ Disk in drive: 5 G (10 mSec 1/2 sine) ○ No disk in drive: 5 G (10 mSec 1/2 sine) • Storage & transport: 40 G (3 mSec 1/2 sine) 	
1.7	<p>Max. altitude:</p> <ul style="list-style-type: none"> • Operating: <ul style="list-style-type: none"> ○ Disk in drive: 4600 meters (15,000 ft.) ○ No disk in drive: 4600 meters (15,000 ft.) • Storage & transport: 4600 meters (15,000 ft.) 	
1.8	<p>Safety Standards:</p> <ul style="list-style-type: none"> • CAS certified for electronic test and measurement equipment per CSA C22.2, NO.231 This product is designed for compliance to: UL 1244, Fourth Edition IEC 348, 2nd Edition, 1978 	
1.9	<p>MI / RFI standards:</p> <ul style="list-style-type: none"> • CISPR 11 	
1.10	<p>Acoustic power:</p> <ul style="list-style-type: none"> • LpA < 55 db (Cooling fan at high speed setting) • < 45 db (Auto speed setting at 25 °C) 	
2	Microwave Counter, Power Meter	
2.1	<p>Save and recall:</p> <ul style="list-style-type: none"> • Complete instrument setups may need to save and later recall 	
2.2	<p>Sample rate:</p> <ul style="list-style-type: none"> • User-selectable 	

2.3	Counter gate time: <ul style="list-style-type: none"> • 1/Resolution selected 	
2.4	Math functions: <ul style="list-style-type: none"> • Offset (relative/fixed) <ul style="list-style-type: none"> ○ Last reading and/or entered offset to reading for either power or frequency • Averaging <ul style="list-style-type: none"> ○ Measurement running average 	
2.5	Display: <ul style="list-style-type: none"> • Backlit LCD 	
2.6	Sleep mode: <ul style="list-style-type: none"> • Backlight automatically shuts off if no input signal and power sensor present 	
2.7	Self test: <ul style="list-style-type: none"> • Count and power meter circuitry and internal memory automatically tested at startup. Error messages displayed to indicate failed tests. 	
2.8	Programming: <ul style="list-style-type: none"> • Interface • Language 	
2.9	Power Supply: <ul style="list-style-type: none"> • ac <ul style="list-style-type: none"> ○ 90–132 Vac; 47.5–66 Hz or 360–440 Hz ○ 216–264 Vac; 47.5–66 Hz • Line selection <ul style="list-style-type: none"> ○ automatic • Power requirements <ul style="list-style-type: none"> ○ 80 VA max. (32 W typical) • dc • Battery • Type • Charge Time • Capacity 	
2.10	Size: <ul style="list-style-type: none"> • 330 mm W x 156 mm H x 376 mm D ± 10% with bumpers and handles. 	
2.11	Operating temperature: <ul style="list-style-type: none"> • 0–55° C • With battery option <ul style="list-style-type: none"> ○ 0–40° C 	
2.12	Weight (nominal)	

2.13	Warranty: <ul style="list-style-type: none"> • Minimum 1 year: Mobile support 	
2.14	Safety: <ul style="list-style-type: none"> • Designed in compliance with IEC-1010, CAN/CSA 1010.1 	
2.15	EMC: <ul style="list-style-type: none"> • Designed in compliance with IEC-11, EN50082-1, IEC801-2, -3, -4. 	
3	Jitter Oscilloscopes	
3.1	Basic Jitter Views: <ul style="list-style-type: none"> • Jitter trend • Jitter histogram • Jitter spectrum • Multi-acquisition 	
3.2	Vertical Noise Analysis: <ul style="list-style-type: none"> • Vertical noise decomposition • Total interference estimation • Separate analysis of one and zero levels • Advanced noise views 	
3.3	Jitter Clock Measurements: <ul style="list-style-type: none"> • Period • Pulse width (+, -, both) • Frequency • Duty cycle (+, -) • Time-interval error • Cycle-cycle jitter • N-cycle jitter • Cycle-cycle +/- width • Cycle-cycle duty cycle 	
3.4	Jitter Data Measurements: <ul style="list-style-type: none"> • Time-interval error • Data rate • Unit interval 	
3.5	Delay/Edge Measurements: <ul style="list-style-type: none"> • Setup/hold • Phase • Rise/fall time 	

3.6	<p>Jitter Separation:</p> <ul style="list-style-type: none"> • Random jitter (RJ) • Deterministic jitter (DJ) • Data dependent jitter (DDJ) • Inter-symbol interference (ISI) • Duty cycle distortion (DCD) • Bounded uncorrelated jitter (BUJ) • Periodic jitter (PJ) • Aperiodic bounded uncorrelated jitter (ABUJ) • Total jitter (TJ) estimation • BER range • Max pattern length periodic mode • Max pattern length arbitrary mode 	
3.7	<p>Advanced Jitter Views:</p> <ul style="list-style-type: none"> • BER bathtub • DDJ vs bit • Composite histograms • TJ histogram • DDJ histogram • RJ/PJ histogram • RJ/PJ spectrum 	
4 Low profile 6 1/2 Digit Multimeter		
4.1	<p>Power:</p> <ul style="list-style-type: none"> • Power supply: 90 V - 264 V @ 45-66 Hz 90 V - 134 V @ 360-440 Hz • Power Line: Automatically sensed at power-on • Power consumption: 50 VA peak (18 W average) 	
4.2	<p>Physical items:</p> <ul style="list-style-type: none"> • Dimensions: <ul style="list-style-type: none"> ○ Height: 212.3 mm ±10% ○ Width: 40.9 mm ±10% ○ Depth: 363.2 mm ±10% 	
4.3	<p>Ambient temp:</p> <ul style="list-style-type: none"> • Operating: Full accuracy for 0° C to 55° C <ul style="list-style-type: none"> ○ 80% R.H. at 40° C non-condensing • Storage temperature: -40° C to 70° C 	
4.4	<p>Spurious-free dynamic range & signal to noise distortion ratio</p> <ul style="list-style-type: none"> • Function: DCV <ul style="list-style-type: none"> ○ Range: 1 V, 10 V, 100 V ○ Spur-free: -75 db, -70 db, -75 db ○ SNDR: 60 db, 60 db, 60 db 	

4.5	<p>Triggering and memory:</p> <ul style="list-style-type: none"> • Reading hold sensitivity: 1% of reading • Samples per trigger: 1 to 1,000,000 • Trigger delay: 0 to 36000 sec (20µs step size) • External trigger: Programmable edge, low-power TTL compatible <ul style="list-style-type: none"> ○ Delay: < 1 µs ○ Jitter: < 1 µs ○ Max. rate: 5,000/sec ○ Min pulse width: 1 µs ○ Voltmeter complete: 3 V logic output, 2 µs pulse with programmable edge • Nonvolatile memory: 50,000 readings • Volatile memory: 1,000,000 readings • Sample timer <ul style="list-style-type: none"> ○ Range: 0 to 3600 s (20 µs step sizes) ○ Jitter: < 100 ns 	
4.6	<p>LXI compliance:</p> <ul style="list-style-type: none"> • LXI Class C, ver. 1.0 	
4.7	<p>Safety Standards:</p> <ul style="list-style-type: none"> • IEC 61010-1, EN 61010-1, UL 61010-1, CAN/CSA-C22.2, NO.61010-1, refer to Declarations of Conformity for current revisions. Measurement CAT II 300V, CAT II 1000V. Pollution Degree 2 	
4.8	<p>EMC:</p> <ul style="list-style-type: none"> • IEC 61326, EN 61326, CISPR 11, ICES-001, AS/NZS 2064.1, refer to Declaration of Conformity for current revisions. 	
4.9	<p>Warranty:</p> <ul style="list-style-type: none"> • 1 year: Mobile support, worldwide network 	
5	NanoVolt/Micro-Ohm Meter	

5.1	<p>Accuracy Specifications \pm(% of reading + % of range):</p> <ul style="list-style-type: none"> • Function: dc Voltage <ul style="list-style-type: none"> ○ Range 1.0000000 mV - 100.0000000 V⁴ ○ Test Current ○ 24 Hour, 23 °C \pm 1 °C: 0.0025 + .0020 - 0.0010 + .0004 ○ 90 Day, 23 °C \pm 5 °C: 0.0040 + .0020 - 0.0025 + .0005 ○ 1 Year, 23 °C \pm 5 °C: 0.0050 + .0020 - 0.0035 + .0005 ○ Temperature Coefficient 0 °C—18 °C, 28 °C—55 °C: 0.0004 + .0001 - 0.0004 + .00005 ○ Maximum per Lead Resistance • Function: Resistance <ul style="list-style-type: none"> ○ Range 1.0000000 Ω - 10.0000000 MΩ ○ Test Current 10 mA - 5 μA ○ 24 Hour, 23 °C \pm 1 °C: 0.0015 + .0002 - 0.0020 + .0003 ○ 90 Day, 23 °C \pm 5 °C: 0.0050 + .0002 - 0.0050 + .0004 ○ 1 Year, 23 °C \pm 5 °C: 0.0070 + .0002 - 0.0070 + .0004 ○ Temperature Coefficient 0 °C—18 °C, 28 °C—55 °C: 0.0005 + .00002 - 0.0006 + .00003 ○ Maximum per Lead Resistance 1 Ω - 1 KΩ • Function: Low Power Resistance <ul style="list-style-type: none"> ○ Range 1.0000000 Ω - 10.0000000 MΩ ○ Test Current 10 mA - 5 μA ○ 24 Hour, 23 °C \pm 1 °C: 0.0015 + .0002 - 0.0020 + .0003 ○ 90 Day, 23 °C \pm 5 °C: 0.0050 + .0002 - 0.0050 + .0004 ○ 1 Year, 23 °C \pm 5 °C: 0.0070 + .0002 - 0.0070 + .0004 ○ Temperature Coefficient 0 °C—18 °C, 28 °C—55 °C: 0.0005 + .00002 - 0.0006 + .00003 ○ Maximum per Lead Resistance 1 Ω - 1 KΩ • Function: Voltage Limited Resistance <ul style="list-style-type: none"> ○ Range 10.0000000 Ω - 100.0000000 Ω ○ Test Current 1 mA - 100 μA ○ 24 Hour, 23 °C \pm 1 °C: 0.0020 + .0002 - 0.0025 + .0002 ○ 90 Day, 23 °C \pm 5 °C: 0.0050 + .0002 - 0.0050 + .0002 ○ 1 Year, 23 °C \pm 5 °C: 0.0070 + .0002 - 0.0060 + .0002 ○ Temperature Coefficient 0 °C—18 °C, 28 °C—55 °C: 0.0005 + .00002 - 0.0005 + .00001 ○ Maximum per Lead Resistance 1 Ω - 5 Ω • Channel 1 / Channel 2 (dcV Ratio) Ration Error in % = Channel 1 accuracy in % + Channel 2 accuracy in %. • Channel 1-Channel 2 (dcV Difference) Difference Error = Channel 1 (% of reading + % of range) + Channel 2 (% of reading + % of range)
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5.2	<p>Temperature:</p> <ul style="list-style-type: none">• SPRT<ul style="list-style-type: none">○ SPRT Probe Accuracy + 0.003°C• RTD RTD<ul style="list-style-type: none">○ Probe Accuracy + 0.05°C• Thermistor<ul style="list-style-type: none">○ Thermistor Probe Accuracy + 0.1°C• Thermocouple<ul style="list-style-type: none">○ Thermocouple Probe Accuracy + 0.2°C	
5.3	<p>DC Voltage Noise:</p> <ul style="list-style-type: none">• Range<ul style="list-style-type: none">○ 1 mV - 100 V• 2-Minute RMS Noise<ul style="list-style-type: none">○ 1.3 nVrms - 11 μVrms• 2-Minute Peak-Peak Noise<ul style="list-style-type: none">○ 8 nVpp - 75 μVpp• 24-Hour Peak-Peak Noise<ul style="list-style-type: none">○ 12 nVpp - 90 μVpp	
5.4	<p>DC Voltage Noise vs Source Resistance:</p> <ul style="list-style-type: none">• Source Resistance<ul style="list-style-type: none">○ 0 Ω - 1M Ω• Noise<ul style="list-style-type: none">○ 1.3 nVrms - 90 nVrms	

5.5	<p>Measurement Characteristics:</p> <ul style="list-style-type: none">• DC Voltage<ul style="list-style-type: none">○ Measurement Method: Continuously integrating multi-slope III A-D Converter Resistance○ A-D Linearity: 0.00008% of reading + 0.00005% of range○ Input Resistance: 100V (Ch1 only): 10 MΩ \pm 1% 1mV through 10V: > 10 GΩ, in parallel with < 3.6 nF○ Input Bias Current: <50 pA at 25 °C○ Injected Current: <50 nA pp at 50 or 60 Hz○ Input Protection: 150 V peak any input terminal to Channel 1 LO, continuous○ Channel-to-channel switching error (typical): 3 nV○ Channel Isolation: Isolation between input channels >10 Ω○ Earth Isolation: 350 V peak any input terminal to earth. Impedance from any input terminal to earth is >10 GΩ and <400 pF○ Maximum Voltage: Channel 1 LO to Channel 2 LO, 150V peak• Resistance:<ul style="list-style-type: none">○ Measurement Method: Selectable 4-wire or 2-wire ohms. Current Source referenced to Channel 1 LO input○ Offset Compensation: Used on all ranges except 100 kΩ and 1 MΩ. Can be turned off if desired○ Protection: 150 V peak○ Open Circuit Voltage: For Resistance and Low Power Resistance. <14 V. 20 mV, 100 mV, 500 mV selectable clamp• Temperature<ul style="list-style-type: none">○ SPRT: ITS-90 calibrated temperature with the range of -190°C to +660°C○ Thermocouple: ITS-90 conversions of Type B, E, J, K, N, R, S, T○ Thermistor: 5 kΩ○ RTD: Type α = .00385 and α = .00392. R0 from 4.9 Ω to 2.1 kΩ. ITS -90 (IEC-751) Callendar Van Dusen conversion.• Measurement Noise Rejection 60 (50) Hz1<ul style="list-style-type: none">○ dc CMRR: 140 dB○ ac CMRR: 70 dB• Integration Time<ul style="list-style-type: none">○ 200 plc/3.335 s (4 s) - <1 plc• Normal Mode Rejection<ul style="list-style-type: none">○ 110 dB - 0	
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5.6	<p>Operating Characteristics:</p> <ul style="list-style-type: none"> • Function <ul style="list-style-type: none"> ○ dcV <ul style="list-style-type: none"> ▪ Thermocouple ○ Resistance <ul style="list-style-type: none"> ▪ dcV1/DCV2 ▪ dcV 1-2 ▪ RTD ▪ Thermistor 	
5.7	<p>System Speeds:</p> <ul style="list-style-type: none"> • Configuration Rates: 26/s to 50/s • Autorange Rate (Volts): >30/s • ASCII reading to RS-232: 55/s • ASCII reading to GPIB: 250/s • Max. Internal Trigger Rate: 250/s • Max. Ext. Trig. Rate to Memory: 250/s 	
5.8	<p>Triggering and Memory:</p> <ul style="list-style-type: none"> • Reading HOLD Sensitivity: 10%, 1%, 0.1%, or 0.01% of range • Samples/Trigger: 1 to 50,000 • Trigger Delay: 0 to 3600 s; 10 µs step size • External Trigger Delay: <1 ms • External Trigger Jitter: <500 µs • Memory: 1024 readings 	
5.9	<p>Math Functions:</p> <ul style="list-style-type: none"> • NULL (Channel 1 dcV, Channel 2 dcV, Difference, Resistance, Temperature) • STATS (Min, Max, Average, Peak-Peak, Standard Deviation, Number of readings) • SCALE (Allows linear scaling as $y = mx+b$) • CHART NULL (Establishes zero for rear panel output) 	
5.10	<p>Filter (Analog or Digital or Both):</p> <ul style="list-style-type: none"> • Analog: Low pass 2 pole @ 13Hz, available for dcV on 1 mV, 10 mV, 100 mV range • Digital: Moving average filter, 10 (fast), 50 (medium), or 100 (slow) reading averages. 	
5.11	<p>Chart Out (Analog Out):</p> <ul style="list-style-type: none"> • Maximum output: ± 3V • Resolution: 16 bits • Accuracy: ± 0.1% of output + 1 mV • Output Resistance: 1 kΩ ± 5% • Update rate: once per reading • Span and Offset: Adjustable 	
5.12	<p>Standard Programming Languages:</p> <ul style="list-style-type: none"> • SCPI (IEEE 488.2), Keithley 181 	

5.13	<p>Accessories Included:</p> <ul style="list-style-type: none"> • 4 ft low thermal cable with copper spade lugs, • Kelvin clip set, • 4-wire shorting plug, • user's manual, • service manual, • test report, • contact cleaner, and • power cord. 	
5.14	<p>General Specifications:</p> <ul style="list-style-type: none"> • Physical items <ul style="list-style-type: none"> ○ Front Panel Connection: Shielded, low thermal, 99% copper contacts. ○ Height: ± 103.6 mm ○ Width: ± 254.4 mm ○ Depth: ± 374.0 mm L ○ Weight: ± 3 kg (6.5 lbs) 	
5.15	<p>Power:</p> <ul style="list-style-type: none"> • Power Supply: <ul style="list-style-type: none"> ○ 100V/120V/220V(230V)/240V +/- 10%. • Power Line Frequency: <ul style="list-style-type: none"> ○ 45 Hz to 66 Hz and 360 Hz to 440 Hz. ○ Automatically sensed at power-on. • Power Consumption: <ul style="list-style-type: none"> ○ 25VA peak (10W average). 	
5.16	<p>Environment:</p> <ul style="list-style-type: none"> • Operating Environment <ul style="list-style-type: none"> ○ Full accuracy for 0 °C to 55 °C. Full accuracy to 80% R.H. up to 30 °C. • Storage Environment <ul style="list-style-type: none"> ○ -40 °C to 75 °C. 	
5.17	<p>Chart Out (Analog Out):</p> <ul style="list-style-type: none"> • Maximum output: ± 3V • Resolution: 16 bits • Accuracy: ± 0.1% of output + 1 mV • Output Resistance: 1 kΩ ± 5% • Update rate: once per reading • Span and Offset: Adjustable 	
5.18	<p>Standard Programming Languages:</p> <ul style="list-style-type: none"> • SCPI (IEEE 488.2), Keithley 181 	
5.19	<p>Safety:</p> <ul style="list-style-type: none"> • Designed to CSA, UL-1244, IEC-1010. • RFI and ESD: CISPR 11. 	

ANNEX "B" – BASIS OF PAYMENT

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices. Customs duties are included. Applicable Taxes are extra, if applicable, and to be shown as a separate item on any resulting invoice.

Pricing must be firm (Canadian) unit price all costs associated with providing the requirement in accordance with requirement at Annex A, FOB destination.

FOB Destination: Wills Transfer Ltd.
3100 Swansea Crescent
Ottawa, ON. K1G 3W4
(613) 744-0970 ext. 201
c/o Claudette Weedmark

Bidder to provide a detailed list of all items that will be part of the Electronic Testing Instruments.

Pricing must be in Canadian funds.

Item	Description	Qty	Unit of Issue	Unit Price CND
1	<p>Dynamic Signal Analyzer in accordance with the mandatory performance specifications detailed in Annex A – Requirement.</p> <p>All inclusive pricing including freight and offloading charges, FOB Destination to Wills Transfer Ltd., Ottawa, Ontario.</p> <p>Delivery on or before March 31, 2017.</p> <p>Model Number: _____</p>	1	each	\$
2	<p>Oscilloscope in accordance with the mandatory specifications detailed in Annex A – Requirement.</p> <p>All inclusive pricing including freight and offloading charges, FOB Destination to Wills Transfer Ltd., Ottawa, Ontario</p> <p>Delivery on or before March 31, 2017.</p> <p>Model Number: _____</p>	1	each	\$

3	<p>Microwave counter, Power Meter in accordance with the mandatory performance specifications detailed in Annex A – Requirement.</p> <p>All inclusive pricing including freight and offloading charges, FOB Destination to Wills Transfer Ltd., Ottawa, Ontario</p> <p>Delivery on or before March 31, 2017.</p> <p>Model Number: _____</p>	1	each	\$
4	<p>Digit Multimeter in accordance with the mandatory performance specifications detailed in Annex A – Requirement.</p> <p>All inclusive pricing including freight and offloading charges, FOB Destination to Wills Transfer Ltd., Ottawa, Ontario</p> <p>Delivery on or before March 31, 2017.</p> <p>Model Number: _____</p>	1	each	\$
5	<p>Micro-Ohm Meter in accordance with the mandatory performance specifications detailed in Annex A – Requirement.</p> <p>All inclusive pricing including freight and offloading charges, FOB Destination to Wills Transfer Ltd., Ottawa, Ontario</p> <p>Delivery on or before March 31, 2017.</p> <p>Model Number: _____</p>	1	each	\$
TOTAL (CND)				\$

Solicitation No. - N° de l'invitation
A7100-163752/B
Client Ref. No. - N° de réf. du client
A7100-163752

Amd. No. - N° de la modif.
File No. - N° du dossier
WPG-6-39203

Buyer ID - Id de l'acheteur
wpg016
CCC No./N° CCC - FMS No./N° VME

ANNEX "C" - ELECTRONIC PAYMENT INSTRUMENTS

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

() Direct Deposit (Domestic and International);