

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
**Travaux publics et Services gouvernementaux
Canada**
Place Bonaventure, portail Sud-Est
800, rue de La Gauchetière Ouest
7 ième étage
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

Title - Sujet Équipement Mesure automatisé film	
Solicitation No. - N° de l'invitation 31026-140685/B	Date 2015-01-14
Client Reference No. - N° de référence du client 31026-14-0685	
GETS Reference No. - N° de référence de SEAG PW-\$MTA-280-13069	
File No. - N° de dossier MTA-4-37144 (280)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-02-09	Time Zone Fuseau horaire Heure Normale du l'Est HNE
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: Blanchet, Annie A.	Buyer Id - Id de l'acheteur mta280
Telephone No. - N° de téléphone (514) 496-3519 ()	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 ÉDIFICE BOUCHERVILLE 75 BOUL.DE MORTAGNE BOUCHERVILLE Québec J4B6Y4 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

Travaux publics et Services gouvernementaux Canada
Place Bonaventure, portail Sud-Est
800, rue de La Gauchetière Ouest
7 ième étage
Montréal
Québec
H5A 1L6

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

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Reissue of Bid Solicitation

This bid solicitation cancels and supersedes previous bid solicitation number 31026-140685/A dated 2014-10-20 with a closing of 2014-12-01 at 02:00 pm. A debriefing or feedback session will be provided upon request to bidders/offerors/suppliers who bid on the previous solicitation.

See solicitation document attached.

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PART 1 - GENERAL INFORMATION

1. Security Requirement

There is no security requirement associated with this bid solicitation.

2. Requirement

The requirement is detailed under Article **2. Requirement** of the resulting Contract clauses.

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 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) (<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 (2014-09-25) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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.

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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

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 copie)

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.

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1.1 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

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

It is mandatory to provide the technical / descriptive documents of the product that you are offering (eg. drawing, data sheet, sketch, etc.) to allow it's technical evaluation. Failure to comply will render your bid non responsive.

You have to demonstrate in your technical submission that your product is compliant with every characteristics mentionned in Annex A, Section 2. Mandatory technical specifications.

1.1.1 Mandatory Technical Criteria

See Annex "A" - Requirement

1.2 Financial Evaluation

SACC Manual Clause A0222T (2014-06-26), Evaluation of Price - Canadian / Foreign Bidders

2. Basis of Selection

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.

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PART 5 - CERTIFICATIONS

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

The certifications provided by bidders to Canada are subject to verification by Canada at all times. 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 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 with this request will also render the bid non-responsive or will constitute a default under the Contract.

1. Certifications Required Precedent to Contract Award

1.1 Integrity Provisions - Associated Information

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 Integrity Provisions - Bid of Standard Instructions 2003. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

1.2 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 (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

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.

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PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement

There is no security requirement applicable to this Contract.

2. Requirement

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

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.

3.1 General Conditions

2010A (2014-09-25), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

Amended as follow:

Adding item 27 of General Conditions 2030 (Intellectual Property Infringement and Royalties)

3.2 Supplemental General Conditions

4003 (2010-08-16), Licensed Software, apply to and form part of the Contract.

4. Term of Contract

4.1 Delivery Date

All the deliverables must be received, if possible, on or before March 31, 2015.

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5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Annie Blanchet
Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
Telephone: 514-496-3519
Facsimile: 514-496-3822
E-mail address: annie.blanchet@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.

5.2 Contractor's Representative

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

Telephone : _____
Facsimile: _____
E-mail address: _____

5.3 Contact at Customer Department

(to be completed by Canada at the time of award)

For all information related to invoicing and/or payments you may communicate with:

Customer department: _____
Name: _____
Telephone: _____
Facsimile: _____
E-mail address: _____

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6. Payment

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 lot price, as specified in Annex "B" for a cost of \$ _____ (insert the amount at contract award). Customs duties are included and Applicable Taxes are extra.

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

6.2 Limitation of Price

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

6.3 SACC Manual Clauses

SACC Manual clause H1000C (2008-05-12) Single Payment
SACC Manual clause C2000C (2007-11-30) Taxes - Foreign-based Contractor

7. Certifications

7.1 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.

8. Applicable Laws

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

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9. 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 supplemental general conditions 4003 (2010-08-16), Licensed Software
- (c) the general conditions 2010A (*2014-09-25*), General Conditions - Goods (Medium Complexity)
- (d) Annex A, Requirement;
- (e) Annex B, Basis of payment
- (f) 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)*)

10. SACC Manual Clauses

SACC Manual clause A9068C (2010-01-11) Government Site Regulations

SACC Manual clause B1501C (2006-06-16) Electrical Equipment

SACC Manual clause C2602D (2008-05-12) Customs Duties Exempt (National Research Council of Canada)

SACC Manual clause G1005C (2008-05-12) Insurance

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ANNEX "A"

REQUIREMENT

1.0 Purpose

The group Functional Nanomaterials of Medical Devices portfolio of National Research Council Canada (NRC) in Boucherville wishes to acquire equipment for automated non-destructive measurement of very thin transparent or semi-transparent films (5 nanometers to 50 nanometers) as well as thin photoresists (~0.5 micrometers to ~5 micrometers) and thick negative photoresists (~1 micrometers to ~800 micrometers). This equipment shall also be able to provide optical properties characterisation parameters for the analysed materials. It needs to be compatible with a Class 1000 cleanroom environment where it will be installed.

2.0 Mandatory Technical Specifications

Suppliers must meet all of the Mandatory Technical Criteria set out in this section to be considered responsive.

Upon bid deposit, you must provide technical/descriptive documents on the proposed products in order to demonstrate compliance with all of the following Mandatory Technical specifications.

The technical proposal should present clearly and in sufficient depth the points forming the subject of the evaluation criteria upon which the bid will be evaluated.

Bidders that do not meet all of the Mandatory Technical Criteria will be rejected without further consideration.

The delivered equipment must have the following specifications :

- 2.1** The equipment must be able to measure all the required measurements in a non-destructive manner, without mechanical or physico-chemical interaction.
- 2.2** The equipment must be compatible with a Class 1000 cleanroom environment.
- 2.3** The equipment must be able to measure film thicknesses between a minimum of 5 nanometers (nm) and at least 800 micrometers (μm) for the different following materials:
 - 2.3.1** From 5 nanometers to 50 nanometers for metallic films of gold and chromium (Au and Cr)
 - 2.3.2** From 10 nanometers to 100 nanometers for Bottom Anti-Reflective Coatings (BARC)
 - 2.3.3** From 0.5 micrometers to 800 micrometers for transparent polymers in the visible spectrum: positive photoresist [AZ9260, AZ5214] and negative photoresist [SU8].
- 2.4** The equipment must be able to measure film thickness without the need to provide optical parameters input such as refractive index (n) or extinction coefficient (k) in advance (for thicknesses below 5 micrometers).
- 2.5** The equipment must be able to measure at least three layers of multilayer films. For this multilayer measurement we allow input of the optical parameters refractive index (n) and coefficient of extinction (k) of each film. It is also understood that two coincident films have different refractive index (n).
- 2.6** The equipment must be able to measure refractive index (n) as a function of wavelength (λ): $[n(\lambda)]$.
- 2.7** The equipment must be able to measure the reflectivity spectrum as a function of the wavelength (λ).
- 2.8** The equipment must be able to measure films deposited on ALL the following substrates without the need to do hardware modifications:
 - 2.8.1** Wafers made of silicon, glass or plastic with diameter of 100 millimetres (mm), 150 mm and 200 mm and of thicknesses varying from 300 μm to 1.5 mm. Wafers of 100 mm with 32.5 mm primary flat, 150 mm with a 57.5 mm primary flat and 200 mm with a 1 mm notch.
 - 2.8.2** Small pieces of different forms having dimensions larger than 1 centimeter/side made of silicon, glass or plastic, in a more manual mode.
 - 2.8.3** Thin plastic sheets with thicknesses from 25 to 250 micrometers and different forms having dimensions larger than 1 centimeter/side.
- 2.9** The equipment must be capable of automatic displacement through a motorized stage and also of manual displacement across the whole measurement surface when necessary (see also 2.10).

- 2.10** The equipment must be capable to choose automated predefined location on measurements across surfaces of samples.
- 2.11** The equipment must allow when necessary measurement with a spot size less than 150 micrometers for thickness measurement of less than 150 μm films and of less than 1mm for films thicker than 150 micrometers. This needs to be done without hardware modifications (changing a software setting or a one button switch to change the configuration would be acceptable).
- 2.12** The equipment must have an integrated vision system allowing precise location of measurement on specific patterns.
- 2.13** The equipment must allow thickness measurements having bias (difference between measured values and accepted theoretical value [NIST traceable Standard]), of $\pm 1\%$ of the measurement or 1 nanometer (the biggest apply). This must apply to any measurement across the possible range of measurements.
- 2.14** The equipment must allow thickness measurements having 3σ accuracy (3 times the standard deviation of multiple measurements taken at different time) of less than $\pm 0.5\%$ of the measurement or 0.5 nanometer (the biggest apply). This must apply to any measurement across the possible range of measurements.
- 2.15** The equipment must allow thickness measurements having stability (measurement taken on the course of 10 days on the exact same sample) of $\pm 0.5\%$ of the measurement or 0.5 nanometer (the biggest apply).
- 2.16** The equipment must allow an automatic 25 points sequence of thickness measurements on a 150 mm wafer in less than 5 minutes (per example consider a transparent polymer [in the visible spectrum] between 1 and 5 micrometers).

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SOFTWARE

2.17 The equipment must come with software capable of :

- 2.17.1** Measuring: indexes of refractions as a function of the wavelength $[n(\lambda)]$, extinction coefficient as a function of the wavelength $[k(\lambda)]$ and thickness of materials.
- 2.17.2** Displaying the reflectivity spectrum and of exporting its raw data into a readable parsed format (format: .txt and/or, .csv.)
- 2.17.3** Executing an automated stage displacement and setting location in a specific recipe.
- 2.17.4** Creating and saving at least 1000 recipes.
- 2.17.5** Defining the parameter of some custom materials that are not included by default in the software.
- 2.17.6** Measuring mappings of multiple points and saving/exporting the results in a readable parsed format (format: .txt and/or, .csv.)
- 2.17.7** Configuring the measurements for multilayer films (at least up to 3 layers).
- 2.17.8** Rendering the results of a programmed sets of measurements into a colored map and also capable of exporting the graph for usage in third party software for reporting. (saveable under format: .jpg and/or .jpeg and/or .gif and/or .bmp and/or .tiff)

2.18 All functioning and analysis software must be able to run on Windows system (Win7 or newer).

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Mandatory specifications	Specify the location in the bid documentation or data sheets where the mandatory specifications are met.
2.1	
2.2	
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2.17.8	
2.18	

3.0 Deliverables

- 3.1** The equipment and all the accessories needed to meet and verify the mandatory requirements described in this document.
- 3.2** A copy of the technical documentation (in French and/or English) containing at least the following subjects: installation, maintenance and operation of the equipment and technical references on the functionalities of the equipment.
- 3.3** A list of recommended replacement parts with ordering codification to use when servicing or repairing the equipment.
- 3.4** The tools and reference samples required (must be NIST traceable) to execute all the required calibrations, verification and system maintenance for the measurement described in the mandatory specifications (section 2.0).
- 3.5** The measurement and the analysis software (for all analysis mentioned in section 2.0) must be provided for installation on the measurement tool. (See also section 6.4)
- 3.6** One additional analysis software only (for all analysis mentioned in section 2.0) must be provided for installation on a standalone workstation (e.g. need to work without connection to the measurement tool). (See also section 6.4)

4.0 Delivery

The procurement of this equipment must include delivery at National Research Council of Canada, 75 boulevard de Mortagne, Boucherville (Québec) J4B 6Y4.

5.0 Installation and training

The installation of the equipment and training is planned to be “plug and play” and self-explanatory with phone and web support on demand. If in-person visits are needed for installations and/or training, the cost must be added and/or included in the equipment pricing.

6.0 General Information for installation

- 6.1 The equipment must be CSA or ULC-approved or certified by a recognized organization in Québec. Refer to: <https://www.rbq.gouv.qc.ca/en/electricity/votre-devoir-envers-la-securite-du-public/approval-of-electrical-equipment.html>
- 6.2 All safety or emergency labels must be in French or English or illustrated by symbols.
- 6.3 Electrical voltage available: 120 V, 60 Hz, 1 phase. Any other voltage, if needed, must be obtained using a transformer supplied by the vendor.
- 6.4 NRC will provide a computer (Win7 or newer) with the necessary power, speed, memory and card slots. If any special requirements are necessary, specify them. If a very specific configuration is mandatory and can only be provided from the company, the cost of the computer must be included in the price of the equipment.
- 6.5 NRC will provide a sturdy table (no special vibrational grade) for the equipment. If a very specific table is mandatory and can only be provided from the company, the cost of this table must be included in the price of the equipment. Do not consider any compressed gas infrastructure as defined in 6.6.2.
- 6.6 The equipment must operate in an autonomous and independent manner and require NONE of the following ADDITIONAL elements to be operated:
 - 6.6.1 Cooling system (Chiller)
 - 6.6.2 Compressed gas (nitrogen or « Clean Dry Air » CDA)
 - 6.6.3 Vacuum line
 - 6.6.4 Particular acoustical, electromagnetic and/or vibrational specifications
 - 6.6.5 Additional equipment or infrastructure to allow a safe operation.

7.0 Warranty and technical support

Equipment, accessories and software must be covered by a full warranty of at least one year starting after the installation and acceptance of the equipment by qualified employee at NRC. The vendor must also supply technical support by email, phone or Internet, connection within a maximum of 24 hours following a service call.

Solicitation No. - N° de l'invitation
31026-140685/B
Client Ref. No. - N° de réf. du client
31026-14-0685

Amd. No. - N° de la modif.
File No. - N° du dossier
MTA-4-37144

Buyer ID - Id de l'acheteur
mta280
CCC No./N° CCC - FMS No./N° VME

APPENDIX B

BASIS OF PAYMENT

	Description	Qty	Total price (\$)
A	Tool for automated film thickness measurement As described in Appendix A, item 2.0 Mandatory technical specifications and item 3.0 Deliverables	1	
B	Transport costs As described in Appendix A, item 4.0 Delivery	1	
C	Costs of installation and training (if any) As described in Appendix A, item 5.0 of Installation and training	1	
	Grand total (A+B+C):		