

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Public Works and Government Services / Travaux
publics et services gouvernementaux
Kingston Procurement
Des Acquisitions Kingston
86 Clarence Street, 2nd floor
Kingston
Ontario
K7L 1X3
Bid Fax: (613) 545-8067

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 X-Ray Equipment	
Solicitation No. - N° de l'invitation 23584-140179/A	Date 2013-11-01
Client Reference No. - N° de référence du client 23584-14-0179	
GETS Reference No. - N° de référence de SEAG PW-\$KIN-508-6207	
File No. - N° de dossier KIN-3-40095 (508)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-12-16	
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: Weaver, Tammy	Buyer Id - Id de l'acheteur kin508
Telephone No. - N° de téléphone (613) 545-8059 ()	FAX No. - N° de FAX (613) 545-8067
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATURAL RESOURCES 183 LONGWOOD RD SOUTH HAMILTON Ontario L8P0A5 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 / Travaux publics
et services gouvernementaux
Kingston Procurement
Des Acquisitions Kingston
86 Clarence Street, 2nd floor
Kingston
Ontario
K7L 1X3

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

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PART 1 - GENERAL INFORMATION

1. Security Requirement

There is no security requirement associated with this bid solicitation.

2. Requirement

Natural Resources Canada (NRCan)– Minerals and Metals Sector – CanmetMATERIALS Lab (www.nrcan-rncan.gc.ca/mms-smm/mate-mate/index-eng.htm) require the supply and installation equipment for the Radiography Suite:

- 300 kV portable X-ray unit with control unit and accessories;
- 200 kV portable X-ray unit with control unit and accessories;
- Table top X-ray film processor.

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>) 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 (2013-06-01) 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.

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

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

Section I: Technical Bid (2 hard copies)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard copy)

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

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

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

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

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

Section I: Technical Bid

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.

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

1.1.1 Mandatory Technical Criteria

Each bid will be reviewed for compliance with the mandatory requirements of the bid solicitation. Bids that do not meet each and every mandatory requirement will be considered non-compliant and will receive no further consideration.

- a. The proposed product must meet the Mandatory equipment Requirements as outlined in Annex A, Requirement;
- b. The Bidder must provide make and model of proposed equipment and must clearly address each requirement for the proposed equipment to demonstrate compliance with the Mandatory equipment Requirements.
- c. Proof must be provided demonstrating the Bidder has designed and manufactured and supplied a minimum of two (2) of the same or similar systems within the last five (5) years from bid closing. Company name, location and current contact information including email address must be provided.
- e. Bidder must provide proof of valid certification to Quality Management System ISO 9001.
- f) The bidder must submit a completed and Sign Table and Notice of designated and/or hazardous substances on project form (Annex C).

1.2 Financial Evaluation

- 1.2.1 Bidders must submit pricing in accordance with Annex B, Basis of Payment.
- 1.2.2. The price used in the evaluation will be the sum of all unit prices for the aggregate total.

1.2.3 Evaluation of Price

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, FOB destination, Canadian customs duties and excise taxes included.

2. Basis of Selection - Mandatory Technical Criteria

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

PART 5 - CERTIFICATIONS

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. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies that the Bidder and its affiliates are in compliance with the provisions as stated in Section 01 Code of Conduct and Certifications - Bid of Standard Instructions 2003. The related documentation therein required 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](http://www.labour.gc.ca/eng/standards_equality/eq/emp/fcp/list/inelig.shtml)" list (http://www.labour.gc.ca/eng/standards_equality/eq/emp/fcp/list/inelig.shtml) available from Human Resources and Skills Development Canada (HRSDC) - 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.

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement

There is no security requirement applicable to this Contract.

2. Requirement

Natural Resources Canada (NRCan)– Minerals and Metals Sector – CanmetMATERIALS Lab (www.nrcan-rncan.gc.ca/mms-smm/mate-mate/index-eng.htm) requires the following equipment for the Radiography Suite:

- 300 kV portable X-ray unit with control unit and accessories;
- 200 kV portable X-ray unit with control unit and accessories;
- Table top X-ray film processor.

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 (2013-04-25), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

3.2 Supplemental General Conditions

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

4. Term of Contract

4.1 Delivery Date

All the deliverables must be received in accordance with the schedule of Milestones shown at 6.2 of the Resulting Contract Clauses.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Tammy Weaver
Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
86 Clarence St., 2nd Floor
Kingston, Ontario
K7L 1X3

Telephone: 613-545-8059
Facsimile: 613-545-8067
E-mail address: tammy.weaver@pwgsc.gc.ca

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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

The Technical Authority for the Contract is: (to be provided at contract award)

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

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

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

Name: _____
Telephone Number: _____
Fax Number: _____
Email Address: _____

6. Payment

6.1 Basis of Payment – Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price as specified in Annex "B" 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 Schedule of Milestones

Milestone Number	Description of Deliverable	Firm Amount		Delivery Date
1	See Annex B Table B-2 Item 1	___% of overall contract	\$to be filled in at contract award	
2	See Annex B Table B-2 Item 2	___% of overall contract	\$to be filled in at contract award	See above comment
3	See Annex B Table B-2 Item 3	___% of overall contract	\$to be filled in at contract award	See above comment
4	See Annex B Table B-2 Item 4	___% of overall contract	\$to be filled in at contract award	Completed must be completed by 31 March 2014

6.3 Milestone Payments

SACC Manual clause H3010C (2010-01-11) Milestone Payments

7. Invoicing Instructions

- The Contractor must submit a claim for payment using form [PWGSC-TPSGC 1111](#), Claim for Progress Payment.

Each claim must show:

- all information required on form [PWGSC-TPSGC 1111](#);
 - all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
 - the description and value of the milestone claimed as detailed in the Contract.
- Applicable Taxes, must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.
 - The Contractor must prepare and certify one original and two (2) copies of the claim on form [PWGSC-TPSGC 1111](#), and forward it to the *Technical* Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

The *Technical* Authority will then forward the original and two (2) copies of the claim to the Contracting Authority for certification and onward submission to the Payment Office for the remaining certification and payment action.
 - The Contractor must not submit claims until all work identified in the claim is completed.

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8. Certifications

8.1 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.

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) 2010A (2013-04-25), General Conditions - Goods Medium Complexity
- (c) 4003 Licensed Software (2010-08-16)
- (d) Annex A, Requirement;
- (e) Annex B, Basis of Payment and Schedule of Milestones;
- (f) the Contractor's bid dated _____.

11. SACC Manual Clauses

B1501C	Electrical Equipment	(2006-06-16)
A2000C	Foreign Nationals (Canadian Contractor	(2006-06-16)
A2001C	Foreign Nationals (Foreign Contractor	(2006-06-16)

12. Shipping Instructions - Delivery at Destination

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

- a. Delivered Duty Paid (DDP) Natural Resources Canada, 183 Longwood Rd. S, Hamilton, Ontario Incoterms 2000 for shipments from a commercial contractor.

ANNEX "A"

REQUIREMENT

1. Natural Resources Canada – Minerals and Metals Sector – CanmetMATERIALS Lab (www.nrcan-rncan.gc.ca/mms-smm/mate-mate/index-eng.htm) requires the following equipment for the Radiography Suite:

- 300 kV portable X-ray unit with control unit and accessories;
- 200 kV portable X-ray unit with control unit and accessories;
- Table top X-ray film processor.

The objective of the equipment is to provide the essential capability to allow NRCan Non Destructive Testing (NDT) Hamilton to operate an industrial radiography laboratory and function as a NRCan/ Canadian General Standards Board (CGSB) radiography test center.

It will be utilized in the critical practical examination portion for candidates seeking Level 1 or 2 CGSB Industrial Radiography Certification. In addition, the X-ray capabilities will also be used to provide in house support to NRCan Hamilton functional groups, a service that has been provided in the past to support NRCan's research programs.

2. Installation

The Contractor must provide on-site installation of the system upon arrival at the NRCan Facility in Hamilton, Ontario.

Team members working on this project shall have the following Ontario certifications, licenses or proof of training, as applicable and required:

- Certified Plumbers
- Certified electricians
- WHMIS training and certification

Plumbing must adhere to the National Plumbing Code.

3. Electrical Installation

Upon installation completion it is the equipment manufacturer's or installer's responsibility to obtain certification from the Electrical Safety Authority (ESA) for any electrical installation work.

The supplier must address all the corrective actions mandated by the inspector at no additional cost.

Necessary local permits must be obtained by the Contractor.

Installation will be carried out and completed prior to 31 March 2014.

4. Occupational Health & Safety and Environment Contractor Health & Safety Compliance Requirements

- The contractor shall comply with the Province of Ontario's requirements and CanmetMATERIALS Federal OHS&E (Occupational Health, Safety and Environment) policy and procedures.
- CanmetMATERIALS Lab will orient the contractor for CanmetMATERIALS Federal OHS&E policy and procedures, prior to the start of the work.
- The contractor shall put in place its own qualified compliance monitoring process and team.

- Prior to Contractor Orientation at CanmetMATERIALS Lab, all onsite contractors must provide proof of WHMIS training to CanmetMATERIALS Lab.
- All Non Canadian citizens coming on site must forward copies of their passport a minimum of 2 weeks prior to Orientation.

5. Commissioning

The Contractor must provide on-site commissioning at the NRCan facility in Hamilton, Ontario. All costs associated with the commissioning of the system, including travel and living expenses must be included in the price. The on-site commissioning of the system must be carried out by a qualified service technician.

On-site commissioning will be completed within (***to be completed at time of contract award***) calendar days of installation. The exact date, and time of the commissioning will be mutually agreed between the Contractor and the Technical Authority stated herein.

Commissioning of the equipment must be in compliance with the Electrical Code and Ontario Safety Regulations (Occupational Health and Safety Act Industrial Establishments Regulation, Guidelines for Pre-start Health and Safety Reviews, Appendix II (Recognized Standards) (Ministry of Labour, April 2001) Province of Ontario Occupational Health and Safety Act, R.R.O. 1990, Regulation 861 – X-Ray Safety)

6. Cold Commissioning Acceptance:

This mode of commissioning is to be carried out prior to Energizing Equipment. The items to be completed include the following:

- Obtain Electrical Certification (Ontario Electrical Safety Authority -- ESA)
- Write Standard Operating Procedures for Updates or Creation for all equipment
- Develop Lock-Out Tag-Out (LOTO) Procedure
- Provide Equipment Documentation Updates (as a result of equipment modification & installation).
- Rework if necessary equipment deficiencies to Obtain Compliance
- Conduct Final Prestart Engineering Review Complete to Ensure all Guarding and Safety Features have been adhered to
- Equipment Energizing Procedure Commences
- Staged Removal of Lock-Out Tag-Out (LOTO) of Equipment

7. Warm Commissioning:

The aim of carrying out warm commissioning is to:

- Verify software communication between the instrument and controlling computer to ensure there are no loose connections
- Demonstrate instrumentations and check equipment safety, alarms and interlocks.
- Rework if necessary equipment deficiencies for compliance
- Contractor Signed off on Commissioning of New Equipment

8. Hot Commissioning:

Hot commissioning is conducted in order to achieve the following:

- Rework if necessary equipment deficiencies for compliance.
- Final site acceptance test with all systems functioning during trial run to validate that the entire system is working to specifications and functional requirements.
- Hot Commissioning Complete once verified by the Technical Authority

Installation and Commissioning Complete

At the completion of hot commissioning, the equipment must be “turned over to Technical Authority.”.

9. Training:

The Contractor must provide training for at least 3 personnel in English and/or French as required.

The Contractor must provide training for:

- the installation of equipment and equipment start-up;
- use of the equipment, standard operating procedures, and safety training;
- maintenance, system calibrations and trouble shooting of the equipment and software;
- the software, transducer conditioning, system control software, to ensure safe and competent operation of the testing equipment, and to ensure a complete appreciation of all the attributes and complete and competent navigation around the software elements.

10. Manuals & Equipment Drawings

The Contractor is to provide to NRCAN, two (2) hard copies and one (1) electronic copy, in MS Word or PDF format, of the manuals which must include, but not limited to:

- Installation and startup manuals
- User Manuals including electrical and piping schematics
- OEM certifications
- Maintenance, Troubleshooting & Parts manual
- Procedure to place the system into a safe and reliable shutdown state
- Emergency procedures

Manuals must be provided to NRCAN in English

The Contractor is to provide to NRCAN, electronic copies, in AutoCAD or PDF format, of the system schematics, layouts, and equipment detail drawings.

11. Service, Support & Updates

Purchase of the equipment must include technical support as either; regional technical support; technical phone support; or support via the Internet (manufacturer will be able to access the equipment via internet protocol to perform updates and troubleshoot). Communication must begin within 72 hours of the initial request for support.

The system provided must have spare parts and service support available for a minimum of five (5) years from date of contract.

12. Mandatory Equipment Requirements:

The Bidder must supply the following equipment and accessories:

MANDATORY SPECIFICATIONS FOR THE RADIOGRAHPIE SUITE EQUIPMENT

Req. No.	Requirement
	A1 – Equipment Certifications
A1-1	The equipment must be CSA, ESA, or ULC approved with visible markings.
A1-2	The design of equipment must comply with the guidelines for Control of Hazardous Energy – Lockout and Other Methods CSA Z460.

Req. No.	Requirement
A1-3	The System must meet Health Canada Requirements for sale of the x-ray equipment in Canada (Code 34 - Radiation Emitting Devices (RED) Act). Proof of certification is required. The equipment design and construction must to be in compliance with the Province of Ontario Occupational Health and Safety Act, R.R.O. 1990, Regulation 861 – X-Ray Safety.
A1-4	The equipment must meet the requirements of the Province of Ontario Occupational Health and Safety Regulations for Industrial Establishments, section 7: Pre-Start Health and Safety Review. It will be the responsibility of the contractor to make any modifications necessary to meet the section 7 requirements.
A2 – Facility Integration (Environment, Connection to services)	
<u>A2-1</u>	The equipment must be able to operate indoors and outdoors, where the ambient temperature may vary from -20 °C to +50 °C.
<u>A2-2</u>	Electrical requirements: The equipment must be suitable for use with power supply of: <ul style="list-style-type: none"> • 60 Hz • 120V and 208V, single phase • Equipment voltage tolerance: +/- 10% • In all modes of operation the equipment must as a minimum have a power factor of 0.95
A3 - Equipment Functional & Technical Requirements	
A3-1	X-RAY TUBE 300 KILO-VOLTS
A3-1-1	The portable X-ray unit must be capable to operate within a 5-300 kV range at constant potential.
A3-1-2	Tube current must be capable of operating from a minimum of 0.5 milliamps up to no less than 6.0 milliamps.
A3-1-3	The Focal Spot Size must not exceed 3.0 mm, standard EN 12543 (Non-destructive testing – Characteristic of focal spots in industrial X-ray systems for use in non-destructive testing – Pinhole camera radiographic method).
A3-1-4	Beam angle must be 40° x 60°.
A3-1-5	The Inherent Filtration must be 0.8 mm± 0.1mm Be (Beryllium).
A3-1-6	Duty Cycle at maximum power of 300 kV must have a continuous operation of no less than 60 minutes.
A3-1-7	Anode Cooling must be air-cooled.
A3-1-8	The equipment must have an International Protection Rating of IP65.
CONTROL UNIT	
A3-1-9	Control Unit must be capable of penetrating steel plating and heavy welding up to a thickness of and including 65 millimetres; and achieve a minimum density of 2.0% at a time of no greater than 10 minutes, at a distance not less than 640 millimetres.
A3-1-10	Control unit must be capable of continuously monitoring system functions and alert user to system errors; carry out automatic warm up; have an exposure timer with pre-warning time adjustable to a minimum of 60 seconds.
A3-1-11	Control unit must have a built in exposure calculator and allow the user to store customized exposure settings.
A3-1-12	Control unit must have a three position key switch; OFF, STANDBY, ON, and incorporate an emergency stop button and fail-safe warning lamp.
TUBE HEAD	
A3-1-13	Tube Head must include detachable hand rings with a maximum weight of 40 kilograms (which includes Tube head and detachable hand rings). EMERGENT BEAM TO BE DIRECT EMISSION.
A3-1-14	Tube head must have a built in fail-safe warning lamp.

Req. No.	Requirement
	CABLES
A3-1-15	Connection Cable for the tube head must be a minimum of 20 meters in length.
A3-1-16	A 10 metres length cable for 100-125 V must be provided.
	ACCESSORIES
A3-1-17	The portable X-Ray unit must include the following accessories: Mobile tube stand, carrying cradle, alignment laser pointer, carrying case and aluminum transport box.
	REPLACEMENT PARTS
A3-1-18	The requirement must include 1 spare key, 2 spare bulbs and 2 spare fuses.
A3-2	X-RAY TUBE 200 KILO-VOLTS
A3-2-1	The portable X-ray unit must be capable to operate within 5-200 kV range at constant operation.
A3-2-2	The tube current must be capable of operating from a minimum of 0.5 milliamps up to no less than 10.0 milliamps.
A3-2-3	The Focal Spot Size must not exceed 3.0 mm, standard EN 12543 (Non-destructive testing – Characteristic of focal spots in industrial X-ray systems for use in non-destructive testing – Pinhole camera radiographic method).
A3-2-4	Beam angle must be elliptical, 40° x 60°.
A3-2-5	The Inherent Filtration must be 0.8 mm± 0.1mm Be (Beryllium).
A3-2-6	Duty Cycle at maximum power must have a continuous operation of no less than 60 minutes.
A3-2-7	Anode Cooling must be air-cooled.
A3-2-8	The equipment must have an International Protection Rating of IP65.
	CONTROL UNIT
A3-2-9	Control Unit must be capable of penetrating steel plating and heavy welding up to a thickness of and including 40 millimetres; and achieve a minimum density of 2.0% at a time of no greater than 10 minutes, at a distance not less than 640 millimetres from focal point to work surface (or FFD).
A3-2-10	Control unit must be capable of continuously monitoring system functions and alert user to system errors; carry out automatic warm up; have an exposure timer with pre-warning time adjustable to a minimum of 60 seconds.
A3-2-11	Control unit must have a built in exposure calculator and allow the user to store customized exposure settings.
A3-2-12	Control unit must have a three position key switch; OFF, STANDBY, ON, and incorporate an emergency stop button and fail-safe warning lamp.
	TUBE HEAD
A3-2-13	Tube Head must include detachable hand rings with a maximum weight of 27 kilograms. EMERGENT BEAM TO BE DIRECT EMISSION.
A3-2-14	Tube head must have a built in fail-safe warning lamp.
	CABLES
A3-2-15	Connection Cable for the tube head must be a minimum of 20 meters in length.
A3-2-16	A 10 metres length cable for 100-125 V must be provided.
	ACCESSORIES
A3-2-17	The portable X-Ray unit must include the following accessories: Mobile tube stand, carrying cradle, alignment laser pointer, carrying case/bag and aluminum transport box for both x-ray tube and controller.
	REPLACEMENT PARTS
A3-2-18	The requirement must include 1 spare key, 2 spare bulbs and 2 spare fuses.
A3-3	TABLE TOP X-RAY FILM PROCESSOR
A3-3-1	The Film Processor must be light tight cover.
A3-3-2	The Film Processor film drying system must be infrared.
A3-3-3	A single developing tank and dual fixing tank system must be present in the Film

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Req. No.	Requirement
	Processor.
A3-3-4	An intermediate washing system between the developing tank and the fixing tanks must be present in the Film Processor which ensures developers absence into the mixing tanks.
A3-3-5	The system must ensure the silver quantity in the wash water be less than 40 mg/m ² .
A3-3-6	The Film Processor must include at least one (1) Pre Programmed cycle and Optional cycles from 3 minutes up to 12 minutes in steps of 1 minute. Standard processing cycle of 9 minutes.
A3-3-7	The Film Processor must process film with the following sizes: <ul style="list-style-type: none">• Minimum size of 60 mm by 120 mm;• Format size range:<ul style="list-style-type: none">○ Width: min of 35 mm; MAX of 430 mm;○ Length: min of 120 mm; MAX (35 mm wide) of 2,000mm
A3-3-8	The Film Processor transport speed must be at least of 200 mm/min.
A3-3-9	Water Filter, filter cartridge, water pressure regulator, hoses, piping and fittings to install the Table Top Film Processor must be included in this procurement.
	ACCESSORIES
A3-3-16	Self Levelling Base Table to support the Film Processor
A3-3-17	Automatic Chemical Mixer

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Annex B

Basis of Payment

And Milestone Deliverables

B1 Basis of Payment:

Item #	Description	Qty	Unit Price DDP Canadian Funds
A3-1	X-RAY TUBE 300 KILO-VOLTS as outlined in Annex A	1	\$ _____
A3-2	X-RAY TUBE 200 KILO-VOLTS as outlined in Annex A	1	\$ _____
A3-3	TABLE TOP X-RAY FILM PROCESSOR as outlined in Annex A	1	\$ _____
		Sub-Total	
		HST/GST	
		Total	

B2 Deliverables See Section 6.2 Supply and Installation

Deliverable No.	Description
1	Cold Commissioning Acceptance as outlined in Annex "A"
2	Warm Commissioning as outlined in Annex "A"
3	Hot Commissioning As outlined in Annex "A"
4	Training as outlined in Annex "A" Manuals & Equipment Drawings as outlined in Annex "A"

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Annex "C"

Table and Notice of designated and/or hazardous substances on project

Notice of Designated and/or Hazardous Substances on Project
Project
Project Address
Project No.
Contract Authority
Technical Authority

Notice to Bidders: In accordance with applicable occupational health and safety, and/or environmental protection statutes, be advised that no designated substances are present in the work area.

We, _____ (name of Contractor/Bidder) hereby acknowledge having received this "Notice of Designated or Hazardous Substances on Project."	
Signed for the Contractor / Bid Date:	
Name (Please Print):	Title:

Bidders Certification: In accordance with applicable occupational health and safety, and/or environmental protection statutes, the bidder below certifies that no designated substances will be brought onto the CanmetMATERIALS Lab facility.

We, _____ (name of Bidder) hereby acknowledge having received this "Notice of Designated or Hazardous Substances on Project."	
Signed for the Bid Date:	
Name (Please Print):	Title:

Annexe "D"

Drawings and Measurement of Room

Film fridge	Réfrigérateur de film
N : north	N : nord
DARK ROOM G018	CHAMBRE NOIRE G018
VIEWING G017	SALLE DE PRÉSENTATION G017
LARGE X-RAY G016 300 kV	GRANDE MACHINE À RAYONS X G016 300 kV
Inside light	Lumière intérieure
Double interior	Intérieur double
Panic button	Bouton d'alarme
Double interlock	Double verrouillage
Safety box	Boîte de sécurité
CONTROL PANEL PP	PANNEAU DE COMMANDE PP
Outside Light	Lumière extérieure
Equipment Location:	Emplacement de l'équipement :
Room G018 : Film Processor	Salle G018 : Appareil de traitement de film
Room G016 : Large X-Ray 300 kV	Salle G016 : Grande machine à rayons X 300 kV
Room G014A : Small X-Ray 200 kV	Salle G014A : Petite machine à rayons X 200 kV
CONTROL ROOM G014	SALLE DE COMMANDE G014
SMALL X-RAY G014A 200 kV	PETITE MACHINE À RAYONS X G014A 200 kV
October 30, 2013	30 octobre 2013
ISOTOPE LAB.	LABORATOIRE D'ISOTOPES



Equipment
LOCATION:

Room G018: Film Processor
Room G016: Large X-ray
300 kV
Room G014A: Small X-ray
200 kV

OCT 30, 2013

