

**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
**Bid Receiving - PWGSC / Réception des  
soumissions - TPSGC**  
**11 Laurier St./ 11 rue, Laurier**  
**Place du Portage, Phase III**  
**Core 0A1 / Noyau 0A1**  
**Gatineau, Québec K1A 0S5**  
**Bid Fax: (819) 997-9776**

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government  
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services  
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

**Comments - Commentaires**

<b>Title - Sujet</b> UPG. KIT - CARBORNE RADIAT. DETECT.	
<b>Solicitation No. - N° de l'invitation</b> 47064-146982/A	<b>Date</b> 2013-10-16
<b>Client Reference No. - N° de référence du client</b> 1000316982	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$PV-924-63711	
<b>File No. - N° de dossier</b> pv924.47064-146982	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2013-11-26</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Caron, Anne	<b>Buyer Id - Id de l'acheteur</b> pv924
<b>Telephone No. - N° de téléphone</b> (819) 956-3874 ( )	<b>FAX No. - N° de FAX</b> (819) 956-3814
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> CANADA BORDER SERVICES AGENCY 79 BENTLEY AVE SCIENCE AND ENGINEERING OTTAWA Ontario K2E 6T7 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**

Scientific, Medical and Photographic Division / Division de l'équipement scientifique, des produits photographiques et pharmaceutiques  
11 Laurier St./ 11 rue, Laurier  
6B1, Place du Portage  
Gatineau, Québec K1A 0S5

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

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## PART 1 - GENERAL INFORMATION

### 1. Security Requirement

There is no security requirement associated with this bid solicitation.

### 2. Statement of Requirement

The statement of requirement is detailed under Article 2 of the resulting contract clauses.

#### 2.1 Optional Requirement

The optional requirement is detailed under Article 2.1 of the resulting contract clauses.

#### 2.2 Delivery Requirement

Delivery is required by March 31, 2014.

### 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.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: sixty (60) days  
Insert: ninety (90) days

#### 1.1 SACC Manual Clauses

B1000T (2007-11-30), Condition of Material

## 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 ( 3 hard copies and 3 soft copies on CD or DVD).
- Section II: Financial Bid ( 2 hard copies and 1 soft copy on CD or DVD).
- Section III: Certifications (2 hard copies)
- Section IV: Additional Information ( 3 hard copies and 3 soft copies on CD or DVD).

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft 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](#)

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(<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. Detailed instructions for documentation formats and deliverables may be found in Annexes.

**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.

Bidders must submit firm prices for all items listed at Annex "D" including Optional Requirements and Required options. Failure to do so will render a bidder non-compliant and no further consideration will be given to bid.

**1.1 Exchange Rate Fluctuation**

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

**Section III: Certifications**

Bidders must submit the certifications required under Part 5.

**Section IV: Additional Information** (*Bidder to complete*)

The following applies to the Requirement and bidders must provide the following information :

**1.1 Product(s) Offered**

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

Name of Manufacturer: \_\_\_\_\_

Model/Part Number: \_\_\_\_\_

**1.2 Delivery**

Deliveries must be completed by March 31, 2014. The best delivery that can be offered by the Bidder is \_\_\_\_\_.

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### 1.3 Contractor's Representative

The telephone number of the person responsible for:

**General Enquiries** Name: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Facsimile No.: \_\_\_\_\_  
eMail address: \_\_\_\_\_

**Delivery & Follow-Up** Name: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Facsimile No.: \_\_\_\_\_  
eMail address: \_\_\_\_\_

### 1.4 Documentation and Training

#### 1.4.1 Optional Operator Training (see Annex D)

Operator training in English and/or French (as required, in Quebec) on an as needed basis for up to two years after initial delivery. All costs associated with the on-site training must be included in the price of the option.

**DOCUMENTATION DELIVERABLE: DID 003 - Operator Training.**

#### 1.4.2 CBSA Developed Training

The contractor must provide two hard copies (one in English and one in French) of the operator training materials. Both French and English copies of the operator training materials must be supplied in electronic form (.pdf format) to the CBSA's Ottawa-based Detection Technology Section (DTS). It is CBSA's intention to build its own training course to train and retrain its own staff. The contractor must allow CBSA to use (cut and paste or reproduce) any part(s) of its manuals and/or training materials in order to produce a customized CBSA course. The CBSA will ensure labeling or logo's belonging to the contractor are removed from the documentation, except where necessary to identify the upgrade kit.

**DOCUMENTATION DELIVERABLE: DID 003 - Operator Training**

#### 1.4.3 Manuals

Operator's and technical manuals must be supplied with each kit in both Canadian official languages (English and French). The supplied documents must include the information detailed in **DOCUMENTATION DELIVERABLE: DID 001 - Manuals.**

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## 1.5 Service

Purchase of the upgrade kit must include: regional technical support; technical phone support; support via the Internet; and support via a fax-back document system. Response for this service shall be within 6 hours.

The turn-around time for the supply of parts, from the time the order for parts is received, must not be more than 48 hrs.

The consumable and replacement parts must be available for the estimated life cycle of the instrument, a minimum of 10 years.

Also, provide the following with your bid:

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

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

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- c) Response time in regards to service calls, and escalation schedule, i.e. (how many days with no resolution to a problem until a more experienced person is called in, and from which location).

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

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## 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

All proposals submitted must be completed in full and provide all of the information requested in the Request for Proposal (RFP) package to enable a full and complete evaluation. The onus is on the bidder to provide all the information necessary to ensure a complete and accurate assessment.

### 1.1.1 Mandatory Technical Criteria

See Annex "B"

The Bidder must provide, with their technical bid, technical literature/brochures, operating manuals, written documentation, etc. to demonstrate compliance with each area of the criteria listed in Annex "B". Failure to provide the technical literature or failure to demonstrate compliance with any area of the criteria will in the Bid being deemed non-compliant.

For requirements referencing a **DOCUMENTATION DELIVERABLE**, the Bidder must also provide, with their technical bid, all information requested in the referenced Data Item Description (DID) document. By submission of a Bid, the Bidder agrees to provide all remaining information requested in the DID according to the schedule defined therein.

### 1.1.2 Point Rated Technical Criteria

See Annex "C"

### 1.1.3 Pre-Award Testing - Data Validation Test (DVT)

Following the bid evaluations, the two (2) Bidders with the Highest Combined Rating of Technical Merit and Price will advance to Pre-Award Testing - Data Validation Test (DVT) on a system of the type proposed for purchase in order to validate performance claims and system compliance with the requirements. The upgrade kits must be supplied to CBSA's location (Ottawa, Ontario) for independent verification and testing (period of 30 days) within ten (10) business days of notification.

Test results from the DVT will be used to confirm compliance with mandatory specifications and point allocation based on the Point Rated Technical Criteria Matrix. Pre-award testing will be performed only once and failure to demonstrate compliance with the mandatory specifications will result in the Bidder's proposal being declared non-responsive.

If results of the Pre-Award Testing - Data Validation Test (DVT) change the bidders combined rating and if both bidders combined rating drop below the 3rd ranked bidder, then that bidder will advance to Pre-Award Testing - Data Validation Test (DVT).

## 1.2 Financial Evaluation

1. The price of the bid will be evaluated as follows:
  - a) bidders must submit firm prices, Canadian customs duties and excise taxes included, and Applicable Taxes excluded.
  - b) bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The rate given by the Bank of Canada in effect on the bid solicitation closing date, or on another date specified in the bid solicitation, will be applied as a conversion factor to the bids submitted in foreign currency.

2. Prices will be evaluated on a FOB Destination.
3. For the purpose of the bid solicitation, bidders with an address in Canada are considered Canadian-based bidders and bidders with an address outside of Canada are considered foreign-based bidders.
4. Prices will be evaluated based on total aggregated bid price (includes all pricing detailed in Annex "D").

**2. Basis of Selection**

**2.1 Highest Combined Rating of Technical Merit and Price**

1. To be declared responsive, a bid must:
  - a. comply with all the requirements of the bid solicitation; and
  - b. meet all mandatory criteria;
2. Bids not meeting choose (a) or (b) will be declared non-responsive.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 60% for the technical merit and 40% for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained at pre-award testing / maximum number of points available multiplied by the ratio of 60%.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price (including optional quantities) and the ratio of 40%.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract. The technical score will be determined based on the result of the pre-award testing.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by the highest overall combined ranking based on a weighting of 60% technical and 40% price, respectively. The total available points equals 30 and the lowest evaluated price is \$50,000 (50\*).

Basis of Selection - Highest Combined Rating Technical Merit (60%) and Price (40%)

		<b>Bidder 1</b>	<b>Bidder 2</b>	<b>Bidder 3</b>
<b>Overall Technical Score</b>		27/30	25/30	22/30
<b>Bid Evaluated Price</b>		\$70,000.00	\$55,000.00	\$50,000.00
<b>Calculations</b>	<b>Technical Merit Score</b>	27/30 x 60 = 54.0	25/30 x 60 = 50.0	22/30 x 60 = 44.0
	<b>Pricing Score</b>	*50/70 x 40 = 28.6	*50/55 x 40 = 36.4	*50/50 x 40 = 40.0
<b>Combined Rating</b>		82.6	86.4	84.0
<b>Overall Rating</b>		3	1	2

## 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](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.

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 F - [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

### 1. Security Requirement

There is no security requirement applicable to this Contract.

### 2. Statement of Requirements

The Canadian Border Services Agency (CBSA) has a requirement to purchase 13 upgrade kits for existing vehicles equipped with instruments to detect and identify radionuclides. The Contractor must

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provide instruments in accordance with the Statement of Requirements at Annex "A" and Mandatory Specifications detailed in Annex "B".

## 2.1 Optional Requirement

The Contractor grants to Canada the irrevocable option to purchase up to nine (9) additional upgrade kits or part thereof under the same terms and conditions and at the prices detailed in Annex "D" of the contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment. The Contracting Authority may exercise the option within thirty six (36) months after contract award by sending a written notice to the Contractor.

The Contractor grants to Canada the irrevocable option to purchase operator training in English and/or French (as required, in Quebec) for a minimum of five (5) and up to fifteen (15) operators under the same terms and conditions and at the prices detailed in Annex "D" of the contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment. The Contracting Authority may exercise the option within twenty-four (24) months after contract award by sending a written notice to the Contractor

## 2.2 Factory Acceptance Testing (FAT)

The Contractor must perform a Factory Acceptance Test prior to delivery on each unit via an approved Factory Acceptance Test Plan. CBSA will work with the Contractor to develop the finalized FAT. The plan must check for proper assembly, functioning, accuracy and conformance to the requirements and specifications.

## 2.3 Documentation

**2.3.1** A certificate or other documentation must accompany each upgrade kit, providing at least the following information:

- Manufacturer's name of the different individual components;
- Type of instruments and serial numbers;
- List of radionuclides with which the kit was tested;
- Dose rate range;
- Tests performed and results of testing.

### 2.3.2 CBSA Developed Training

The Contractor allows CBSA to use (cut and paste or reproduce) any part(s) of its manuals and/or training materials in order to produce a customized CBSA course. The CBSA will ensure labeling or logo's belonging to the Contractor are removed from the documentation, except where necessary to identify the system (i.e., within images of the device).

### 2.3.3 Manuals

Manuals are considered a part of the equipment. Operator's and Technical (English and French) manuals must be sent together with each kit.

## 2.4 Service

Purchase of the upgrade kit must include: regional technical support; technical phone support; support via the Internet; and support via a fax-back document system. Response for this service shall be within 6 hours.

The turn-around time for the supply of parts, from the time the order for parts is received, must not be more than 48 hrs.

The consumable and replacement parts must be available for the estimated life cycle of the instrument, a minimum of 10 years.

### **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.

### **4. Term of Contract**

The contract will be in force until all warranty or optional provisions of this agreement are expired.

#### **4.1 Delivery Date**

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

### **5. Authorities**

#### **5.1 Contracting Authority**

The Contracting Authority for the Contract is:

**Anne Caron**

Public Works and Government Services Canada  
Acquisitions Branch  
Commercial Consumer Products Directorate  
11 Laurier Street, 6A2, Phase III  
Place du Portage, Hull, Quebec, K1A 0S5

Telephone: (819) 956-3874

Facsimile: (819) 956-3814

E-mail address: [anne.caron@tpsgc-pwgsc.gc.ca](mailto:anne.caron@tpsgc-pwgsc.gc.ca)

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

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## 5.2 Technical Authority

The Technical Authority for the Contract is: *(will be inserted at contract)*

The Technical Authority named above 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

The telephone number of the person responsible for: *(will be inserted at contract)*

## 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 firm unit prices as specified in Annex "D" for a cost of \$ *(will be inserted at contract)*. 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 Multiple Payments

SACC Manual clause H1001C (2008-05-12) Multiple Payments

### 6.3 Milestone Payments

Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract if all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

## Schedule of Milestones

The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

Milestone No.	Description or "Deliverable"	Firm Amount
1	Factory Acceptance	25% of unit price
2	Delivery of Equipment	50% of unit price
3	Final Acceptance	25% of unit price

## 7. Invoicing Instructions

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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.

Invoices must be distributed as follows:

- (a) The original and one (1) copy must be forwarded to the following address for certification and payment. *(to be filled in only at contract award)*
- (b) One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.
- (c) one (1) copy must be forwarded to the consignee.

## **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.

### **8.2 Federal Contractors Program for Employment Equity - Default by the Contractor**

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and HRSDC-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by HRSDC will constitute the Contractor in default as per the terms of the Contract.

## **9. Applicable Laws**

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

## **10. Priority of Documents**

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions (2010A - General Conditions - Goods (Medium Complexity));
- (c) Annex A, Statement of Requirements;
- (d) Annex B, Mandatory Specifications;
- (e) Annex C, Point Rated Technical Criteria;

- (f) Annex D, Basis of Payment;
- (g) Annex E, Data Item Description Sheets (DID);
- (h) Annex F, Federal Contractors Program for Employment Equity - Certification
- (i) the Contractor's bid dated (*insert date of bid*)

#### **11. SACC Manual Clauses**

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

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

SACC *Manual* clause B7500C (2006-06-16), Excess Goods

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

SACC *Manual* clause A2000C (2006-06-16), Foreign Nationals

SACC *Manual* clause A2001C (2006-06-16), Foreign Nationals

#### **12. Shipping Instructions – FOB Destination**

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

FOB Destination as detailed in Annex "D" including all delivery charges and customs duties and taxes.

## ANNEX "A" - STATEMENT REQUIREMENTS

The Canadian Border Services Agency (CBSA) Non-Intrusive Inspection – Science and Engineering Directorate has a requirement for upgrading the instrumentation of its Carborne Radiation Detetction Systems (CRDS) for the detection and identification of radionuclides, the measurement of gamma-ray dose rate, and the detection of neutron radiation.

The following applies to the requirement and must be provided by the Contractor.

The supplied equipment must meet or better all of the requirements defined below. Systems not meeting all the following Requirements will be considered non-compliant. Proposal evaluation will be based upon the information supplied with the bid only. Failure to provide sufficient detail in the bid submission to evaluate the proposal against the requirement will also deem the bid non-compliant. References are to be specific to supporting technical documentation (ex. Document title, page and paragraph number).

**For requirements referencing a DOCUMENTATION DELIVERABLE, the Bidder must provide all information requested.**

### 1. Equipment

The upgrade kit provided by the bidder must be compatible with the existing <sup>3</sup>He neutron detection module used by the CBSA vehicles, which is the the Exploranium model NPX-360. This existing module, along with the NaI(Tl) gamma ray detection module to be provided by the bidder will be housed in a weatherproof cargo box located on the roof of the vehicle. The connector for the gamma ray detection module provided by the bidder must be the same model as the connector of the Exploranium GPX-256 module. The connectors for the spectrometer module related to the neutron and gamma ray detection modules must be MIL-DTL-26482 connectors which are compatible with the connectors that connect to the SAIC GR-460 spectrometer module. The connector for the gamma ray module cable is a Souriau connector model 851-06JC10-7P50, and the connector for the neutron module cable is a Souriau connector model 851-06JC10-6S50. No adapter should be used to provide the required pinout and connectors; the system must use direct connections to minimise losses. The provided equipment must constitute a standalone upgrade kit, excluding the usage of the above-mentioned neutron detection module and weatherproof box, the cables connecting to the spectrometer that are related to the gamma ray and neutron modules, the stand and tilt/swivel motion attachment for the laptop, and the availability of electrical power from the vehicle at the location of the upgrade kit enclosure.

The supplier must supply a set of other components as part of the upgrade kit. This includes a pure sine wave DC-AV power inverter, an industrial cellular modem and a security appliance. These items are described in the following subsections.

Excluding the laptop and its docking station, all upgrade kit components located inside the vehicle, including the power inverter, the spectrometer, the gateway, the Fortigate appliance and the cell modem must be located in an enclosure whose external dimensions are smaller than 19.5" (W) x 14" (D) x 16" (H). This enclosure will be located at the back of the vehicle, while the laptop will be located at the front of the passenger compartment. The individual components in the enclosure must have closed housings.

#### 1.1 Gamma Ray Detection Module

The gamma ray detection module must use an NaI(Tl) crystal which is at least 4"x4"x16" and the room available for the whole module is limited to 6.75"x7.375"x30". The maximum weight for this module is 50 lbs. Figure 1 shows the required location and diameter for the mounting holes on the gamma ray detection module.

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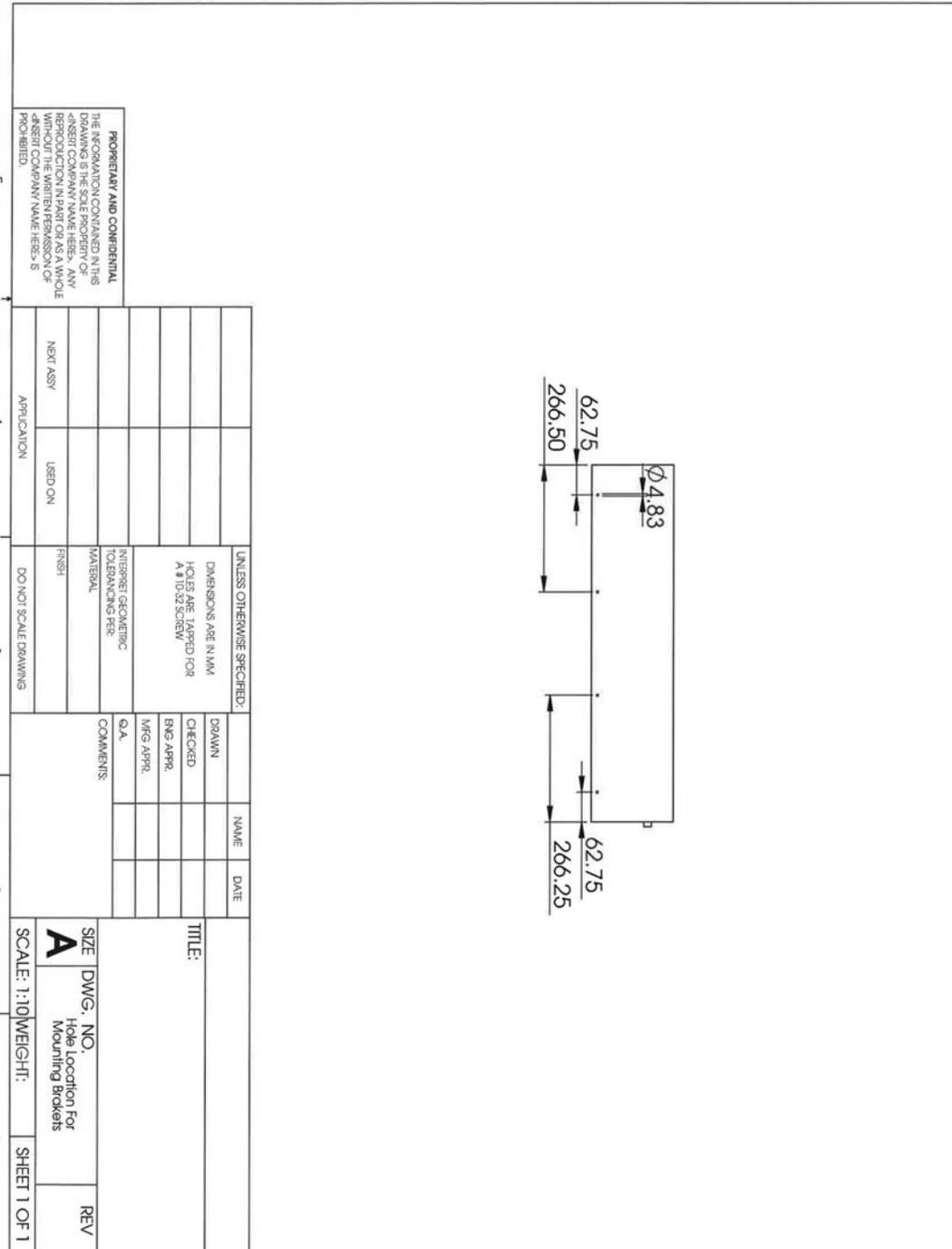


Figure 1: Side view of the gamma ray detection module, which shows the required location and diameter of the mounting holes.

### 1.2 Pure Sine Wave DC-AC Power Inverter

The DC to AC power inverter must be a Samlex 600W pure sine wave inverter or equivalent and must include the following:

- One (1) Pure Sine DC-AC Power Inverter  
Make: Samlex ,Model PST-60S-12A or equivalent.

### 1.3 Spectrometer

The spectrometer must have a minimum of 512 channels and must calibrate its energy response using multiple peaks without the need for external radiation sources. These peaks must be used to calibrate the energy-dependent detector response, and not simply an energy scale and offset. The pinout of the gamma ray module cable and the required pinout for the neutron detection module spectrometer connector are shown on Figure 2.

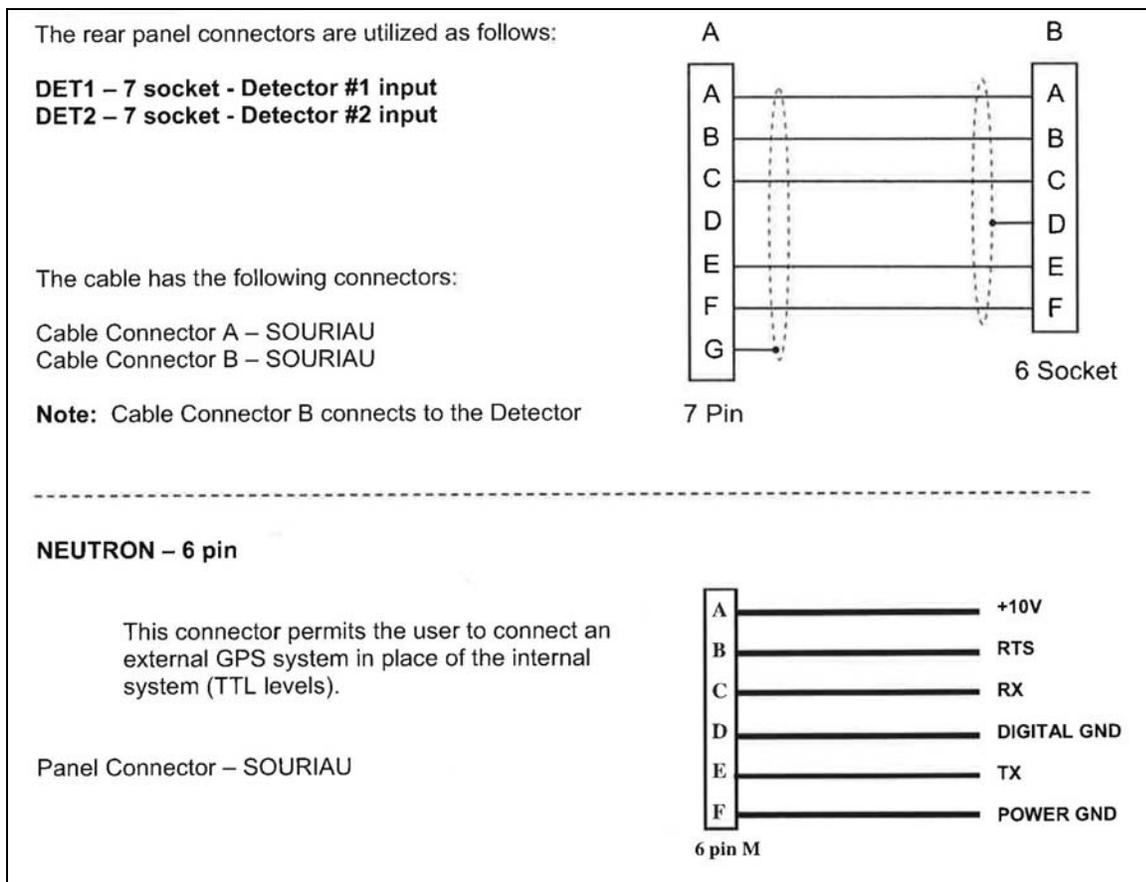


Figure 2: Pinout for the gamma ray detection module cable and the required pinout for the neutron detection module spectrometer connector.

### 1.4 Laptop

The kit must include a ruggedized laptop which is at least MIL-STD-810G, MIL-STD-461F and IP65 certified. The laptop must be a Panasonic Toughbook CF-31VFCAX1M or equivalent.

### 1.5 Docking Station

The docking station for the laptop must be at least MIL-STD-810G certified and must be mountable on Gamber Johnson's 7160-0419 Clevis tilt/swivel motion attachment. It must include an easily accessible USB port that can be used to manually transfer carborne data to a USB memory stick, two ethernet ports, an internal power supply and an automatic locking system.

### 1.6 Gateway

The gateway hardware must be equivalent to an Advantech ARK-2150L series high performance fanless embedded box PC in the following configuration:

- One (1) Computer System, Intel i7, 3517UE, 1.7GHz, 2LAN, 4COM, 2USB3.0  
Make: Advantech, Model: ARK-2150L-S7A1E
- One (1) Memory Module, 8GB, SO-DDR31333, 204pin, 512x8  
Make: Advantech, Model: 96SD3-8G1333NN-TR
- One (1) Solid State Disk, SQF 2.5", SSD, 820, 128GB, MLC, -40C to +85C  
Make: Advantech, Model: SQF-S25M8-128G-S8E
- One (1) Operating System, WIN7 Ultimate W/SP1 64-bit DSP 1PK DVD English  
Make: Advantech, Model: 96SW-WIN7U1-64-EN
- One (1) Standard Assembly + Functional Testing + Software  
Make: Advantech, Model: AGS-CTOS-SYS-A
- One (1) Power Supply, 100-240V 60W 12V 5A W/O PFC DPS-60PB A A  
Make: Advantech, Model: 1757003934
- One (1) Cable/Wire, M Cable SATA 7P(W/LOCK)/SATA 7P 60CM C=R 180/180  
Make: Advantech, Model: 1700003194
- One (1) Cable/Wire, Power Cord 3P UL/CSA 125V 10A 1.83M 180D  
Make: Advantech, Model: 1702002600

### 1.7 Security Appliance

The security appliance must be a Fortinet Fortigate-80CM and must include the following:

- One (1) Fortinet Security Appliance  
Make: Fortinet, Model: Fortigate-80CM
- One (1) Rack mount kit, (if the bidder provides a 19" rack mount capable enclosure).  
Note that this rack mount kit is 1.3RU high (2.25")  
Make: Rackmount it, Model: RM-FR-T2

### 1.8 Industrial Cellular Modem

The industrial cellular modem must be a Sierra Wireless AirLink GX400 cellular modem or better for use on the Rogers's cellular network, CBSA's cellular service provider, and must include the following:

- One (1) industrial cellular modem  
Make: Sierra Wireless, Model: GX400.or better
- Two (2) external antennas

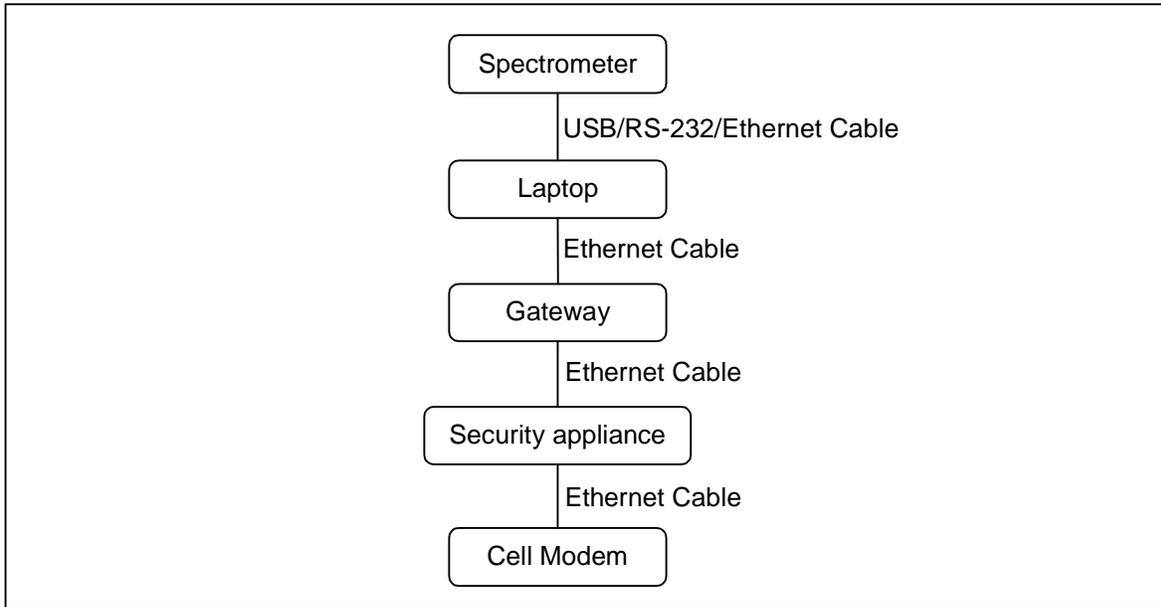


Figure 3: Diagram of the connections between the different components of the CRDS upgrade kit, excluding the radiation detectors and the power inverter.

## 2. Software

Any software required for detector operation, calibration and configuration must be supplied. Software for viewing and analysis of collected spectra must also be supplied, and must be able to be installed on an unlimited number of CBSA computers. The software installed on the vehicle's laptop must be fully usable using the touchscreen or the keyboard and trackpad, in a transparent manner that does not require to manually switch input mode. Software manuals must also be supplied. The contractor must provide all software updates to the purchaser for a period of ten (10) years following the acceptance, at no additional cost. The word "updates" means all patches, extensions or other modifications to the software necessary to maintain or achieve the advertised performance and informational security of the equipment.

## 3. Documentation

A certificate or other documentation must accompany each upgrade kit, providing at least the following information:

- Manufacturer's name of the different individual components;
- Type of instruments and serial numbers;
- List of radionuclides with which the kit was tested;
- Dose rate range;
- Tests performed and results of testing.

#### 4. Marking and Tracking of Units

All instrument controls, displays, and adjustments must be identified as to function. External markings must be easily readable and permanently fixed under normal conditions of use. The following markings must appear on the exterior of the instruments:

- Manufacturer and model number;
- Unique serial number;
- Function designation for controls, switches, and adjustments that are not menu or software driven.

#### 5. Quality Assurance Program

The supplier must have a verifiable Quality Assurance Program. This program will demonstrate the contractor's commitment to process assessment, improvement and standardization. An example of this is ISO 9001 certification

#### 6. Data Interpretation and Format

The scan data produced by the bidder's software must be stored as XML files that follow the ANSI N42.42 format standard. The files must be located in a separate folder which is fully controllable by CBSA, with network file sharing enabled for the folder. The software must tightly control the naming of the scan files. For example, the naming convention could be

YYYYMMDDHHMMSS\_XXXX000000\_ID.extension

where "YYYYMMDDHHMMSS" represents a timestamp for the scan, "XXXX000000" is the container number and where "ID" is an integer which is incremented when multiple files are produced within a given scan. The software would use the check digit from the container number to validate this number, and a drop down box could be used to facilitate data entry. A mutually accepted alternative between the bidder and CBSA for filename format, related user interface or validation method could also be possible.

#### 7. Units of Measurement

All provided documentation must be written using SI units (other units may be provided in parentheses). The instrument must display doses and dose rates in units of Sieverts (Sv) by default.

#### 8. User Operation

- The upgrade kit must satisfy to the following requirements:
- Displays must be easily readable over the required operating temperature range and under different lighting conditions (i.e. from < 150 lux to > 10,000 lux).
- User-friendly controls for routine operation.
- Controls and switches that are designed to minimize accidental operation. Regular users must not be able to change the operation mode (e.g. to trigger calibration) of the different components through switches.
- The provided software must have a simple and intuitive user interface.
- The display and interface must be available in both Canadian official languages (English and French). The language of operation must be easily selectable via an on-screen menu.
- Power must be applied automatically to the gateway, security appliance and cell modem when the power inverter is activated.
- Remote desktop must be enabled on the laptop.
- Network Time Protocol (NTP) must be enabled on the laptop and must be configurable by a system administrator.
- The time zone on the laptop must be configurable by a system administrator and should be set by default to UTC.

## 9. Operating modes

The instrument must have at least two different operating modes as follows (nomenclature may differ):

- *Routine mode*: An operating mode that includes detection and identification of radionuclides and dose rate measurement, as well as saving the resulting scan data files to a USB memory stick if required.
- *Restricted mode*: A password-protected advanced operating mode that can be accessed by a trained administrator to control the parameters that can affect the result of a measurement (e.g. selection of radionuclide library, routine function control, calibration parameters, alarm thresholds).

## 10. Personnel Protection Alarm

An alarm must be provided to alert the user when dose rates are above a user-established threshold. The alarm must be both audible and visual and must have an "acknowledge" or similar control to silence the audible function.

## 11. Upgrade kit Performance in Various Climates

- The upgrade kit components located outside the vehicle must be capable of operating at temperatures from -40 °C to 55 °C. The upgrade kit components located inside the vehicle must be capable of operating at temperatures from 0 °C to 40 °C.
- The upgrade kit components located outside the vehicle must be fully functional within 10 minutes of exposure to rapid temperature changes from 22 °C to -4 °C, -40 °C to 22 °C, 22 °C to 55 °C, and 55 °C to 22 °C with each change being made in less than 10 seconds. The upgrade kit located inside the vehicle must be fully functional within 10 minutes of exposure to rapid temperature changes from -40 °C to 22 °C and 55 °C from 22 °C with each change being made in less than 5 minutes. The instrument must provide an indication if it is not fully functional.
- The upgrade kit must be fully functional at up to 93% relative humidity at 40°C.

## 12. Moisture and Dust Protection

The component enclosures must (at a minimum) meet the requirements for IP Code 54 (see IEC 60529), meaning that dust must not penetrate in a quantity to interfere with satisfactory operation of the instrument or to impair safety, and water splashed against the enclosure from any direction shall have no harmful effects.

## 13. Vibration

The upgrade kit components must function normally during exposure to conditions associated with its operation on a moving vehicle. The physical condition and functionality of the instrument must not be affected by exposure to vibration (e.g., solder joints must hold; nuts and bolts must not come loose).

## 14. Mechanical Shock

The upgrade kit components must withstand exposure to ten shock pulses of 50 g peak acceleration, each applied for a nominal 18 ms in each of three mutually orthogonal axes. The physical condition of instruments must not be affected by these shocks (e.g., solder joints must hold; nuts and bolts must not come loose).

## 15. Impact (Microphonics)

The upgrade kit components' response, both gamma-ray and neutron must be unaffected by microphonic conditions, such as those that may occur from low-intensity impacts from sharp contact with hard surfaces.

## 16. Electrostatic Discharge

The upgrade kit components must function properly during and after exposure to contact ESDs at intensities of up to 6 kV.

**17. RF Susceptibility**

The upgrade kit components must not be affected by RF fields over the frequency range of 80 MHz to 2500 MHz at an intensity of 10 volts per meter (V/m).

**18. Radiated Emissions**

RF emissions from the upgrade kit components must be less than that which can interfere with other CBSA equipment located in the area of use. RF emissions when measured at 3 m should be less than:

- 100  $\mu$ V/m from 30-88 Mhz;
- 150  $\mu$ V/m from 88-216 Mhz;
- 200  $\mu$ V/m from 216-960 Mhz;
- 500  $\mu$ V/m above 960 MHz.

**19. Conducted Immunity**

The upgrade kit must not be affected by RF fields that can be conducted onto the components through cables.

**20. Magnetic Fields**

The upgrade kit components must be fully functional when exposed to a constant DC magnetic field in three mutually orthogonal orientations relative to a 10 Gauss magnetic field.

**21. Warm-Up Time**

The time required for the upgrade kit components to be fully functional from either a dead start or when in a standby mode must be less than 2 minutes.

**22. Response Time**

Significant changes in the measured dose rate must be indicated visually and must be proportional to the dose rate. The upgrade kit must indicate a change in dose rate within 2 s.

**23. Gamma Dose Rate Indication**

The relative intrinsic error in the response of the upgrade kit to the reference dose rate from  $^{137}\text{Cs}$  must not exceed  $\pm 30\%$  for dose rates from 1  $\mu\text{Sv/h}$  to the manufacturer-stated maximum response of the instrument.

**24. Over-Range Characteristics for Dose Rate Indication**

The upgrade kit must indicate that an over-range condition exists when the ambient dose rate is greater than the manufacturer-stated maximum dose rate.

**25. Alarms**

The upgrade kit must alarm when exposed to a dose rate greater than the user-defined alarm threshold (gamma or neutron).

**26. Interfering Ionizing Radiation**

The upgrade kit must be able to identify the radionuclide of interest in the presence of an increased gamma-ray background from natural thorium or when exposed to bremsstrahlung photons from a shielded pure beta-emitting source.

**27. False Identification**

The upgrade kit must not identify a radionuclide that is not present when operated in a stable and low ambient radiation background. An indication must also be provided stating that the field is too low to perform an identification.

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## **28. Neutron Response**

The upgrade kit must indicate the presence of neutron radiation. If the instrument provides a dose equivalent rate response, the response must be linear over its range and within  $\pm 50\%$  of the conventionally true value.

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## ANNEX "B" – MANDATORY SPECIFICATIONS

The supplied equipment must meet or exceed all of the specifications listed below. Systems failing to meet all of the following specifications will be considered non-compliant.

The Bidder must clearly demonstrate how each of the Mandatory Specifications is satisfied by submission of supporting documentation.

Failure to submit any of the requested information, or failure to do so in the requested format will result in the Bid being deemed non-compliant. By submission of a Bid, the Bidder agrees to provide all future information requested in the DIDs, according to the schedule defined therein.

The majority of the specifications are based upon the American National Standard Performance Criteria for Mobile and Transportable Radiation Monitors Used for Homeland Security (ANSI N42.43). Where requested, copies of test results carried out according to the methods described in the standard must be supplied. All units must be compliant with the American National Standard Data Format Standard for Radiation Detectors Used for Homeland Security (ANSI N42.42). Proposed upgrade kits must meet the following criteria, some of which will be subjected to point-rated evaluation as indicated:

Item	Description	Data Item Description (DID) Document / Reference
<b>B1 – Power Requirements</b>	The upgrade kit must meet the following power requirements: - Input voltage: 11 to 16 VDC - Total power consumption must be less than 850 W.	<b>DID 002</b> - Detector performance testing report
<b>B2 - Communications</b>	The instrument must have the ability to quickly and easily transfer data to an external device (i.e. a computer). The transfer must employ a bi-directional port (or ports) that meets the requirements of Ethernet, USB, wireless, or other electronic means such as a removable media device. Data transfer methods available must include a wired connection (e.g. Ethernet, USB, or RS-232). Consideration should be given to data security when using wireless data transfer techniques. Communication protocols must be described in the technical manual and proprietary formats must not be used.  <b><i>This requirement will be further evaluated on a point based system according to Point Rated Technical Criteria - Annex "C".</i></b>	
<b>B3 - Types of Radiation Measured and Effective Range of Measurement</b>	The upgrade kit must detect both gamma and neutron radiation and must be capable of gamma spectroscopy. The effective gamma-ray energy response range must be provided by the manufacturer and must include the range from 50 keV to 3 MeV. The manufacturer must also specify the range for gamma-ray count rate measurement and for neutron count rate indication.	<b>DID 001</b> - Manuals
<b>B4 - Radionuclide</b>	The radionuclides must be listed in at least four	<b>DID 001</b> – Manuals

<b>Library and Categorization</b>	<p>categories (Note: this list should not be considered all-inclusive):</p> <ul style="list-style-type: none"> <li>-Special nuclear materials: Uranium (i.e. <math>^{235}\text{U}</math>, <math>^{233}\text{U}</math>), <math>^{237}\text{Np}</math>, Pu.</li> <li>-Medical radionuclides: <math>^{18}\text{F}</math>, <math>^{67}\text{Ga}</math>, <math>^{51}\text{Cr}</math>, <math>^{75}\text{Se}</math>, <math>^{89}\text{Sr}</math>, <math>^{99}\text{Mo}</math>, <math>^{99\text{m}}\text{Tc}</math>, <math>^{103}\text{Pd}</math>, <math>^{111}\text{In}</math>, Iodine (<math>^{123}\text{I}</math>, <math>^{125}\text{I}</math>, <math>^{131}\text{I}</math>), <math>^{153}\text{Sm}</math>, <math>^{201}\text{Tl}</math>, <math>^{133}\text{Xe}</math>.</li> <li>-Naturally-occurring radioactive materials (NORM): <math>^{40}\text{K}</math>, <math>^{226}\text{Ra}</math>, <math>^{232}\text{Th}</math> and daughters, <math>^{238}\text{U}</math> and daughters.</li> <li>-Industrial radionuclides: <math>^{57}\text{Co}</math>, <math>^{60}\text{Co}</math>, <math>^{133}\text{Ba}</math>, <math>^{137}\text{Cs}</math>, <math>^{192}\text{Ir}</math>, <math>^{204}\text{Tl}</math>, <math>^{226}\text{Ra}</math>, and <math>^{241}\text{Am}</math>.</li> </ul> <p>The manufacturer must state the radionuclides that the instrument can identify.</p>	
<b>B5 – Energy Resolution</b>	The manufacturer must state the FWHM for $^{137}\text{Cs}$ (662 keV at 85.1%). FWHM resolution at 662 keV (at 20°C) must be $\leq 8\%$ .	<b>DID 002</b> - Detector performance testing report
<b>B6 - Single Radionuclide Identification</b>	<p>Identify radionuclides within the time specified by the manufacturer (maximum of 2 min). The manufacturer must provide radionuclide-specific test results (for radionuclides indicated with an asterisk, test results should be provided if possible).</p> <ul style="list-style-type: none"> <li>• Unshielded: <ul style="list-style-type: none"> <li>- Must be able to identify <math>^{40}\text{K}</math>, <math>^{57}\text{Co}</math>, <math>^{60}\text{Co}</math>, <math>^{133}\text{Ba}</math>, <math>^{137}\text{Cs}</math>, <math>^{192}\text{Ir}</math>, <math>^{226}\text{Ra}</math>, <math>^{232}\text{Th}</math>, <math>^{241}\text{Am}</math>, <math>^{67}\text{Ga}</math>;</li> <li>- Should be able to identify <math>^{99\text{m}}\text{Tc}</math>, <math>^{125}\text{I}</math>, <math>^{131}\text{I}</math>, <math>^{201}\text{Tl}</math>, <math>^{233}\text{U}^*</math>, <math>^{235}\text{U}^*</math>, <math>^{238}\text{U}^*</math>, Pu* [Reactor grade plutonium (<math>&gt; 6\%</math> <math>^{240}\text{Pu}</math>)].</li> </ul> </li> <li>• Behind 5 mm steel shielding: <ul style="list-style-type: none"> <li>- Should be able to identify <math>^{40}\text{K}</math>, <math>^{57}\text{Co}</math>, <math>^{60}\text{Co}</math>, <math>^{67}\text{Ga}</math>, <math>^{99\text{m}}\text{Tc}</math>, <math>^{125}\text{I}^*</math>, <math>^{131}\text{I}</math>, <math>^{133}\text{Ba}</math>, <math>^{137}\text{Cs}</math>, <math>^{192}\text{Ir}</math>, <math>^{201}\text{Tl}</math>, <math>^{226}\text{Ra}^*</math>, <math>^{232}\text{Th}</math>, <math>^{233}\text{U}^*</math>, <math>^{235}\text{U}^*</math>, <math>^{238}\text{U}^*</math>, Pu* [Reactor grade plutonium (<math>&gt;6\%</math> <math>^{240}\text{Pu}</math>)], <math>^{241}\text{Am}</math>.</li> </ul> </li> </ul> <p><b><i>This requirement will be further evaluated on a point based system according to Point Rated Technical Criteria - Annex "C".</i></b></p>	<b>DID 002</b> - Detector performance testing report
<b>B7 - Simultaneous Radionuclide Identification</b>	The upgrade kit must be able to identify a minimum of two radionuclides simultaneously.	<b>DID 002</b> - Detector performance testing report
<b>B8 – Full-Energy-Peak Efficiency</b>	The manufacturer must state the full-energy-peak efficiency for $^{57}\text{Co}$ (122 keV at 85.51%, $T_{1/2} = 272$ d), $^{133}\text{Ba}$ (356 keV at 62.05%, $T_{1/2} = 10.5$ y), $^{137}\text{Cs}$ (662 keV at 85.1%, $T_{1/2} = 30$ y), and $^{60}\text{Co}$ (1173 and 1332 keV at 99.857% and 99.983%, respectively, $T_{1/2} = 5.27$ y).	<b>DID 002</b> - Detector performance testing report
<b>B9 – Over-Range Characteristics for Identification</b>	The manufacturer must state the maximum gamma-ray dose rate (relative to $^{137}\text{Cs}$ ) for identification. An indication must also be provided stating that the field is too high to perform an identification.	<b>DID 002</b> - Detector performance testing report

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<b>B10 - Neutron Indication in the Presence of Photons</b>	The neutron indication must be insensitive to gamma radiation at gamma-ray dose rates up to the manufacturer-stated maximum gamma-ray dose rate and must not indicate neutron radiation in the presence of gamma radiation.	<b><i>DID 002</i></b> - Detector performance testing report
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**ANNEX "C" - POINT RATED TECHNICAL CRITERIA:**

CBSA will evaluate the technical merit of the rated requirements, according to the following matrix.

Item	Description	Systems' Result (bidder to complete)	Min Pts	Max Pts	Point Breakdown
<b>1 - Communications</b>	The instrument must have the ability to quickly and easily transfer data to an external device (i.e. a computer). The transfer must employ a bi-directional port (or ports) that meets the requirements of Ethernet, USB, wireless, or other electronic means such as a removable media device. Data transfer methods available must include a wired connection (e.g. Ethernet, USB, or RS-232). Consideration should be given to data security when using wireless data transfer techniques. Communication protocols must be described in the technical manual and proprietary formats must not be used.	RS-232 ___ USB ___ Ethernet ___ Wi-fi ___ Bluetooth ___ Other(specify) _____	0	10	RS-232 only = 0 points; Ethernet or USB = 5 points; Wired + wireless = 10 points
<b>2 - Energy Resolution</b>	The manufacturer must state the FWHM for <sup>137</sup> Cs (662 keV at 85.1%). FWHM resolution at 662 keV (at 20°C) must be ≤8%	_____ %	0	15	8% = 0 points 2% or less = 15 points Points assigned linearly between these values (e.g. 5% = [8%-5%]*[2.5 points/1%]=7.5 points)
<b>3 - Single Radionuclide Identification</b>	Identify radionuclides within the time specified by the manufacturer (maximum of 2 min). As per ANSI N42.43, the result should be presented for each radionuclide as the number of correct identifications out of ten at a gamma-ray dose rate of 5 µSv/h.	Unshielded <sup>40</sup> K ___ / 10 <sup>57</sup> Co ___ / 10 <sup>60</sup> Co ___ / 10 <sup>133</sup> Ba ___ / 10 <sup>137</sup> Cs ___ / 10 <sup>192</sup> Ir ___ / 10 <sup>226</sup> Ra ___ / 10	8	25	0.1 points per correct identification out of ten IDs, according to ANSI test procedures (max 1 point per isotope) Min. points: 8 (i.e. 8/10 correct IDs for 10 mandatory radioisotopes); max points: 25 (10/10 for all listed isotopes)



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## ANNEX "D" – BASIS OF PAYMENT

### Pricing Basis:

- a) bidders must submit firm prices, Canadian customs duties and excise taxes included, and Applicable Taxes excluded.
- b) bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The rate given by the Bank of Canada in effect on the bid solicitation closing date, or on another date specified in the bid solicitation, will be applied as a conversion factor to the bids submitted in foreign currency.
- c) Prices will be evaluated on a FOB Destination.

### PRICING:

#### 1. **PRICING FOR CRDS UPGRADE KITS** *(Bidder to complete)*

This requirement is for the purchase of thirteen (13) upgrade kits for the detection and identification of radionuclides. Kits to be delivered to CBSA Ottawa (79 Bentley).

Details	Unit Price \$
Upgrade kit for the detection and identification of radionuclides.	

#### 2. **PRICING BASIS FOR OPTIONAL REQUIREMENTS** *(Bidder to complete)*

##### 2.1 **Optional Requirements**

2.1.1 Additional up to ten (9) upgrade kits or part thereof for the detection and identification of radionuclides. Delivery to CBSA Ottawa (79 Bentley). Bidder is to provide breakdown of pricing. Bidder is to list each component of the kit and the associated price.

##### YEAR 1:

Details	Unit Price \$
Upgrade kit for the detection and identification of radionuclides.	

Component details	Price \$

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**YEAR 2:**

Details	Unit Price \$
Upgrade kit for the detection and identification of radionuclides.	

Component details	Price \$

**YEAR 3:**

Details	Unit Price \$
Upgrade kit for the detection and identification of radionuclides.	

Component details	Price \$

**2.1.2 Operator training**

Operator training in English and/or French (as required, in Quebec) for a minimum of five (5) and up to fifteen (15) operators per session on an as needed basis for up to two years after initial delivery. All costs associated with the on-site training must be included in the price.

Details	Cost \$ at listed locations per session with a minimum of five guaranteed.				
	Vancouver, BC	Montreal, QC	Halifax, NS	Saint John, NB	Prince Rupert, BC
<b>YEAR 1:</b> Operator training					
<b>YEAR 2:</b> Operator training					

**TOTAL AGGREGATE BID PRICE will be calculated by adding all of the above pricing**

### ANNEX "E" – DATA ITEM DESCRIPTION SHEETS (DID)

The following information is requested as part of the procurement process; failure to deliver this information in the format or according to the defined schedule will result in a bid being considered non-compliant.

<b>TITLE</b>	<b>Manuals</b>
<b>DID NUMBER</b>	<b>DID 001</b>
<b>DESCRIPTION / PURPOSE</b>	To provide Operator's and Technical manuals.
<b>SUBMISSION DATE</b>	Submission with Technical Bid
<b>INSTRUCTIONS – Format</b>	Both French and English versions of the Operator's Manual must be supplied in electronic form (searchable .pdf format) to the CBSA's Ottawa-based Detection Technology Section (DTS). Hard copies of the Operator's Manuals (in both French and English) must be included with each upgrade kit delivered. These must use standard terminology, be logically sectioned and all figures and tables must be properly referenced.
<b>INSTRUCTIONS – Content</b>	The supplied documents must include the following information as a minimum: <ul style="list-style-type: none"> <li>• Manufacturer's name and contact information;</li> <li>• Operating instructions and restrictions;</li> <li>• Troubleshooting guide;</li> <li>• Power supply requirements;</li> <li>• Communication protocols used and data formats;</li> <li>• Complete list of detector specifications.</li> </ul>

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<b>TITLE</b>	<b>Detector Performance Testing Report</b>
<b>DID NUMBER</b>	<b>DID 002</b>
<b>DESCRIPTION / PURPOSE</b>	To validate the Bidder's claims regarding the upgrade kit's performance, and to enable CBSA to complete the Evaluation Matrix of the Technical Bid Evaluation.
<b>SUBMISSION DATE</b>	Submission with Technical Bid
<b>INSTRUCTIONS – Format</b>	<p>The Bidder must provide a Detector Performance Report. This report must be formatted accordingly:</p> <ul style="list-style-type: none"><li>• Title page (with DID No, Title, Author, Date)</li><li>• Table of Contents</li><li>• Page numbers</li><li>• Figure and Table numbers</li></ul> <p>Hard copies of all documents must be provided and soft copies (searchable PDF format) are requested at the time of submission.</p>
<b>INSTRUCTIONS – Content</b>	<p>The following information, at a minimum, must be provided in the Detector Performance Report. The report should be sectioned accordingly:</p> <p><b>A. Testing Report</b></p> <p>The Bidder must conduct, and report on, a formal upgrade kit performance test done with a upgrade kit of the same model proposed for purchase by the Government of Canada. Results of previous tests may be used if they comply with the requirements below.</p> <p>The testing will be done according to the procedures defined in the ANSI 42.34 standard (2006), and must clearly evaluate the following aspects:</p> <ul style="list-style-type: none"><li>• Power Requirements</li></ul> <p>Radiological testing performance</p> <ul style="list-style-type: none"><li>• Single radionuclide identification (shielded and unshielded)</li><li>• Simultaneous radionuclide identification</li><li>• Neutron indication in the presence of photons</li><li>• Over-range characteristics for identification</li><li>• Determination of full-energy-peak efficiency</li><li>• Determination of FWHM</li></ul> <p><b>B. Additional Information</b></p> <p>The Bidder may submit any additional technical information they deem to be pertinent, such as (but not limited to) additional test results, third party reports, or scientific publications related to the proposed instrument.</p>

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<b>TITLE</b>	<b>Operator Training</b>
<b>DID NUMBER</b>	<b>DID 003</b>
<b>DESCRIPTION / PURPOSE</b>	To provide information relating to the training curriculum for the procured RIID.
<b>SUBMISSION DATE</b>	Submission of Operator's Training Outline – within 30 days following contract award
<b>INSTRUCTIONS - Format</b>	
<b>INSTRUCTIONS- Content</b>	<p>Operator Training must be comprehensive and must include (but not be limited to) detailed instructions on:</p> <p><b>A. Radiation and safety</b></p> <ul style="list-style-type: none"><li>• basic principles of radiation safety</li></ul> <p><b>B. Upgrade kit Operations</b></p> <ul style="list-style-type: none"><li>• setup of the equipment</li><li>• conducting searches and identifying isotopes</li><li>• troubleshooting common problems</li></ul> <p>All Training Materials, including but not limited to manuals and presentations, must be provided to CBSA in both French and English for review prior to course delivery. Training Materials must be provided with course delivery.</p>

**ANNEX "F" - FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION**

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with such request by Canada will also render the bid non-responsive or will constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit HRSDC-Labour's website.

Date: \_\_\_\_\_(YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

- A1. The Bidder certifies having no work force in Canada.
- A2. The Bidder certifies being a public sector employer.
- A3. The Bidder certifies being a federally regulated employer being subject to the *Employment Equity Act*.
- A4. The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).
- A5. The Bidder has a combined workforce in Canada of 100 or more employees; and
  - A5.1. The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with HRSDC-Labour.

**OR**

- A5.2. The Bidder certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to HRSDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to HRSDC-Labour.

B. Check only one of the following:

- B1. The Bidder is not a Joint Venture.

**OR**

- B2. The Bidder is a Joint Venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)