



**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 0B2 / Noyau 0B2
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

Title - Sujet RADIO-ISOTOPE IDENT. DEVICES	
Solicitation No. - N° de l'invitation W8476-175511/A	Date 2016-09-19
Client Reference No. - N° de référence du client W8476-175511	
GETS Reference No. - N° de référence de SEAG PW-\$\$PV-896-71567	
File No. - N° de dossier pv896.W8476-175511	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-10-31	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
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: Beach, Isabelle	Buyer Id - Id de l'acheteur pv896
Telephone No. - N° de téléphone (613) 867-0709 ()	FAX No. - N° de FAX (819) 956-3814
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

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

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

1.1 Introduction

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications and Additional Information: includes the certifications and additional information to be provided;
- Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by Bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Requirement, the Basis of Payment, the Technical Evaluation, the Federal Contractors Program for Employment Equity - Certification, and any other annexes.

1.2 Summary

- 1.2.1 The Department of National Defence has a requirement for the purchase of new handheld Radio-Isotope Identification Devices (RIID). These RIIDs must be rugged devices capable of determining the presence or absence of radio-isotopes in the field, and to identify those found. Two variants (versions) are being sought. The first variant will be the Basic RIID which will have standard energy resolution. The second variant will be the High Resolution RIID that will possess the higher energy resolution.

The Contract will be for a period of three years. The initial delivery will be made on or before March 31, 2017 with the option to purchase additional RIID units prior to the expiration of the Contract.

Delivery locations will be within Quebec and Ontario.

- 1.2.2 The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT).
- 1.2.3 The Federal Contractors Program (FCP) for employment equity applies to this procurement; see Part 5 – Certifications and Additional Information, Part 7 - Resulting Contract Clauses and the annex titled [Federal Contractors Program for Employment Equity - Certification](#).

1.3 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 2016-04-04, Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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

Delete: 60 days

Insert: 90 days

2.2 Submission of Bids

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

Due to the nature of the bid solicitation, bids transmitted by facsimile to PWGSC will not be accepted.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 10 calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in 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

3.1 Bid Preparation Instructions

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

Section I: Technical Bid (3 hard copies) and (1 soft copies on CD, DVD or USB)

Section II: Financial Bid (1 hard copies) and (1 soft copies on CD, DVD or USB)

Section III: Certifications (3 hard copies)

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 the 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 demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that

Bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, Bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

Section II: Financial Bid

3.1.1 Bidders must submit their financial bid in accordance with the Basis of Payment in Annex "B". The total amount of Applicable Taxes must be shown separately.

3.1.2 Exchange Rate Fluctuation

C3011T 2013-11-06, Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications and additional information required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

Mandatory and point rated technical evaluation criteria are included in Annex "C". The technical evaluation will be made up of three (3) phases. The phases are identified as follows:

4.1.1.1 Mandatory Technical Criteria – Phase I

All proposals submitted must meet ALL the mandatory requirements specified in Phase I of Annex C – Technical Requirements. Only Bidders that meet all of the mandatory requirements will be invited to undergo a pre-award testing (Phase II and Phase III) to determine a Technical Merit Score.

See Annex "C" – Technical Evaluation for Phase I Mandatory Requirements.

4.1.1.2 Point Rated Technical Criteria

4.1.1.2.1 Functional Criteria Testing – Phase II

Public Works and Government Services Canada will notify the Bidder of a successful completion of Phase I and Canada's intent to perform Phase II testing. The Bidder, upon request, must deliver one full kit of each RIID variant (High resolution RIID which includes neutron detection, and a Basic RIID which does not include neutron detection) to be supplied to DND.

See Annex "C" – Technical Evaluation for Phase II Functional Criteria Testing

4.1.1.2.2 General Criteria Evaluation – Phase III

The General Criteria Evaluation will be used to score the RIIDs in terms of added value above the mandatory requirements.

See Annex “C” – Technical Evaluation for Phase III General Criteria Evaluation

4.1.2 Financial Evaluation

Step 1

Bidder must submit Unit Prices for initial contract period, option period 1, option period 2 and option period 3.

Example

Firm	Unit Price Contract Period	Unit Price 1 st Option Period	Unit Price 2 nd Option Period	Unit Price 3 rd Option Period
Basic RIID	\$100	\$105	\$110	\$115
High Resolution RIID	\$105	\$110	\$115	\$120

Step 2

An average option period Unit Price will be calculated using the 3 option period rates.

Example

	Unit Price 1 st Option Period	Unit Price 2 nd Option Period	Unit Price 3 rd Option Period	Average Unit Price all option periods
Basic RIID	\$105	\$110	\$115	\$110
High Resolution RIID	\$110	\$115	\$120	\$115

Step 3

The Unit Price for the Contract Period will be multiplied by the 25 units to be guaranteed in this period. The Average Unit Price of all option periods will be multiplied by the 30 units expected in these three periods combined. These two calculations will then be added together to form the Total Proposed Financial Score.

Example

		Unit Price	Number of Units	Total Cost For Period
Contract Period	Basic RIID	\$100	25	\$2,500.00
	High Resolution RIID	\$105	11	\$1,155.00
Average of Option Period	Basic RIID	\$110	30	\$3,300.00
	High Resolution RIID	\$115	15	\$1,725.00
Total Proposed Financial Score				\$8,680.00

4.1.2.1 Mandatory Financial Criteria

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

4.2 Basis of Selection

4.2.1 SACC Manual Clause A0027T , Basis of Selection – 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; and
 - c) obtain the required minimum of 11 points overall for Phase II – Functional Criteria Testing of the technical evaluation criteria which are subject to point rating.
The rating is performed on a scale of 22 points.
2. Bids not meeting (a), (b) and (c) 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 70 % for the technical merit and 30 % 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 / maximum number of points available multiplied by the ratio of 70 %.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 30%.
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 table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 70/30 ratio of technical merit and price, respectively. The total available points equal 135 (in this example only) and the lowest evaluated price is \$45,000 (45k).

Basis of Selection - Highest Combined Rating Technical Merit (70%) and Price (30%)				
		Bidder 1	Bidder 2	Bidder 3
Overall Technical Score		115/135	89/135	92/135
Bid Evaluated Price		\$55,000.00	\$50,000.00	\$45,000.00
Calculations	Technical Merit Score	$115/135 \times 70 = 59.63$	$89/135 \times 70 = 46.15$	$92/135 \times 70 = 47.70$
	Pricing Score	$45k/55k \times 30 = 24.55$	$45k/50k \times 30 = 27.00$	$45k/45k \times 30 = 30.00$
Combined Rating		84.18	73.15	77.70
Overall Rating		1st	3rd	2nd

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame specified will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969#afed) website (http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969#afed).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

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

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

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

6.1 Security Requirements

There is no security requirement applicable to the Solicitation.

PART 7 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

7.1 Statement of Requirement

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

7.1.1 Optional Goods and/or Services

The Contracting Authority may exercise the option at any time before March 31, 2020 by sending a written notice to the Contractor.

7.2 Condition of Material – Contract

The Contractor must provide material that is new production of current manufacture supplied by the principal manufacturer or its accredited agent. The material must conform to the latest issue of the applicable drawing, specification and part number, as applicable, that was in effect on the bid closing date.

7.3 Electrical Equipment

All electrical equipment supplied under the Contract must be certified or approved for use in accordance with the [Canadian Electrical Code](#), Part 1, before delivery, by a certification organization accredited by the Standards Council of Canada.

7.4 Excess Goods

The quantity of goods to be delivered by the Contractor is specified in the Contract. The Contractor remains liable for any shipment in excess of that quantity whether the excess quantity is shipped voluntarily or as a result of an error by the Contractor. Canada will not make any payment to the

Contractor for goods shipped in excess of the specified quantity. Canada will not return the said goods to the Contractor unless the Contractor agrees to pay for all the costs related to the return, including but not limited to administrative, shipping and handling costs. Canada will have the right to deduct such costs from any invoice submitted by the Contractor.

7.5 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada.

7.5.1 General Conditions

2030 2016-04-04, General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

7.6 Security Requirements

7.6.1 There is no security requirement applicable to the Contract.

7.7 Term of Contract

7.7.1 Period of the Contract

The period of the Contract is from date of Contract to March 31, 2020 inclusive.

7.7.2 Delivery Date

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

7.8 Authorities

7.8.1 Contracting Authority

The Contracting Authority for the Contract is:

Isabelle Beach
A/Supply Specialist
Public Services and Procurement Canada
Acquisitions Branch
Commercial and Consumer Products Directorate
Place du Portage, Phase III, 6A2
11 Laurier Street
Gatineau, QC, K1A 0S5

Telephone: 613-867-0709
Facsimile: 819-956-3814
E-mail address: Isabelle.Beach@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.

7.8.2 Technical Authority (to be identified at Contract award)

The Technical Authority for the Contract is:

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

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

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.

7.8.3 Procurement Authority (to be identified at Contract award)

The Procurement Authority for the Contract is:

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

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

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

7.8.4 Contractor's Representative (to be inserted by Bidder)

The contact information of the person responsible for:

General Enquires & Delivery Follow-Up

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

7.9 Payment

7.9.1 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 "B" for a cost of \$ _____ **(to be inserted at contract award)**. Customs duties are excluded 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.

7.9.2 Taxes – Foreign-based Contractor

SACC Manual clause [C2000C](#) 2007-11-30, Taxes – Foreign-based Contractor

7.9.3 Limitation of Price

SACC Manual clause [C6000C](#) 2011-05-16, Limitation of Price

7.9.4 Priority Rating

Canada is a participant in the United States Defense Priorities and Allocations System and this defence contract is eligible for a priority rating. The Defence Priorities and Allocations Officer, Public Works and Government Services Canada, must advise the Contractor as to the appropriate priority rating within sixty (60) days of the date of the Contract.

7.9.5 Priority Rating – Canadian-based Contractors

1. The Contract concerns a Canadian defence requirement and therefore is eligible to be assigned a "U.S. Priority Rating" for any materials/services imported from the United States which may be required in the performance of the Work. Accordingly, the Contractor must:
 - a. make an application to the Defence Priorities and Allocations Officer, Public Works and Government Services Canada (PWGSC), either by e-mail at: DGAPrioritesdedefense.ACQBDefencePriorities@pwgsc-tpsgc.gc.ca ; or by facsimile: 819-956-1459; and
 - b. include this clause in subcontracts with Canadian-based contractors, and quote the PWGSC Contract Number indicated in the Contract.
2. Failure to comply with the above may impact on the Contractor's delivery commitments. Therefore, the Contractor is responsible for any breach of the Contract that arises from such a failure.

7.9.6 Multiple Payments

SACC Manual clause [H1001C](#) 2008-05-12, Multiple Payments

7.9.7 ISO 9001:2008 – Quality Management Systems – Requirements (QAC C)

SACC Manual clause [D5545C](#) 2010-08-16, ISO 9001:2008 – Quality Management Systems – Requirements (Quality Assurance Code C)

7.10 Wood Packaging Materials

All wood packaging materials used in shipping must conform to the [International Standards for Phytosanitary Measures No. 15: Regulation of Wood Packaging Material in International Trade \(ISPM 15\)](#).

Pertinent additional information on Canada's import and export programs is provided in the following Canadian Food Inspection Agency policy directives:

D-98-08 - [Entry Requirements for Wood Packaging Materials Produced in All Areas Other Than the Continental United States](#)

D-01-05 - [The Canadian Wood Packaging Certification Program \(CWPCP\)](#)

7.11 Inspection and Acceptance

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

7.12 Palletization

1. For all shipments exceeding 0.566 m³ or 15.88 kg (20 ft³ or 35 lbs), except for those shipped by courier, the following applies:
 - a. The Contractor must strap, and if necessary wrap, shipments on standard 1.22 m x 1.02 m (48 in. x 40 in.) wood pallets. The four-way forklift entry pallet must be supplied at no charge to Department of National Defence. Total height, including pallet, must not exceed 1.19 m (47 in.). The pallet load must not extend further than 2.54 cm (1 in.) from any edge of the pallet.
 - b. The Contractor must group items by stock number (on the same pallet) within consolidated shipments. Pallet loads composed of more than one stock number must be marked as "**Mixed Items**".
 - c. Individual items exceeding 1.22 m (48 in.) in length or 453.6 kg (1000 lbs) must be secured to larger pallets or must have 10.16 cm x 10.16 cm (4 in. x 4 in.) skids securely fastened to the bottom of the item. Skids must be separated by a minimum of 71.12 cm (28 in.).
2. Any exception requires the prior approval of the Contracting Authority.

7.13 Incomplete Assemblies

The Contractor must not ship incomplete assemblies unless the authorization for such shipment has been obtained before from the Contracting Authority.

7.14 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

2. Invoices must be distributed as follows:

- a. The original and one (1) copy must be forwarded to the following address for certification and payment.

DGLEPM / DLP 5-5-8-2
101 Colonel By Drive
MGen, Pearkes Bldg.
Ottawa, ON, K1A 0K2

- 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.

7.15 Certifications and Additional Information

7.15.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

7.15.2 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 Employment and Social Development Canada (ESDC)-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 ESDC will constitute the Contractor in default as per the terms of the Contract.

7.16 Applicable Laws

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

7.17 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;
- (c) the general conditions 2030 2016-04-04, General Conditions – Higher Complexity - Goods;
- (d) Annex A, Statement of Requirement;
- (e) Annex B, Basis of Payment;
- (i) the Contractor's bid dated _____, (*insert date of bid*)

7.18 Defence Contract

SACC Manual clause [A9006C](#) 2012-07-06, Defence Contract

7.19 Foreign Nationals (Canadian Contractor *OR* Foreign Contractor)
(Appropriate clause to be inserted upon Contract award)

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

OR

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

ANNEX "A"

STATEMENT OF REQUIREMENT

1. GENERAL REQUIREMENT

1.1 INTENT

The Government of Canada is seeking to procure a new handheld Radio-Isotope Identification Device (RIID). These RIIDs must be rugged devices capable of determining the presence or absence of radio-isotopes in the field, and to identify those found. Two versions (hereafter referred to as "Variants") are sought, the first variation will be for general deployment and will have standard energy resolution (hereafter referred to as "Basic RIID"), and the second variant will be for specific expert users and will possess higher energy resolution (hereafter referred to as "High Resolution RIID"). The High Resolution RIID must also have neutron detection capability.

1.1.1 This Statement of Requirement (SOR) defines the work required to

- a) Manufacture, test, kit and deliver the required number of RIIDs; and
- b) Provide support in the form of training (optional), support documents, and support (ancillary) equipment to ensure the proper operation of the kits delivered.

1.1.2 This SOR is supported by the following appendix:

- a. APPENDIX A: TECHNICAL SPECIFICATIONS

2. DEFINITIONS

2.1.1 **RIID:** As defined by Appendix A. The RIID must include all components necessary to setup and operate the system, such as any straps, batteries or other components necessary to meet the full scope of operational and performance requirements. Unless otherwise specified, "RIID" refers to both variants (the High Resolution RIID and the Basic RIID).

2.1.2 **Ancillary Equipment:** As defined by Appendix A, all associated items necessary to transport, configure, store, interrogate, and maintain the RIIDs in working order. The intent is to contain each RIID within a rugged case, complete with all the interface equipment, proprietary software for data interpretation, cables, manuals, tools, spare batteries, chargers, interface equipment, maintenance software, and / or other associated items as required. The rugged cases provide protection for storage and transport, and a self-contained 'carry-away' arrangement essential for rapid deployment.

- Computer: The RIIDs are required to be capable of transferring data (e.g. spectral data, time/date, error codes, and in the case of the high resolution system also neutron count data) to a computer for analysis. The ancillary equipment employed to perform the transfer is required, however, the computer itself is NOT.
- One case must be provided for each variant.

2.1.3 **Kit:** The RIID and all required Ancillary Equipment.

3. APPLICABLE DOCUMENTS

The SOR (Appendix A) requires that the Bidder provide equipment that conforms to several guidance documents. They are listed here.

3.1 MILITARY FURNISHED DOCUMENTS

Government documents are attached.

3.1.1 **D-02-002-001/SG-001**, Identification and Marking of Canadian Military Property.

3.1.2 **D-LM-008-036-SF-000**, Packaging requirements.

3.1.3 **D-01-400-002/SF-000**, Drawings, Engineering and Associated Lists.

3.2 OTHER PUBLICATIONS

It is the responsibility of the Bidder to obtain all civilian, commercial, and non-military government documents listed herein. Web sites for the organization are given when available.

3.2.1 **ANSI Standard N42.42-2012**, "American National Standard Data Format for Radiation Detectors used for Homeland Security", Available at:
<http://standards.ieee.org/findstds/standard/N42.42-2012.html>

3.2.2 **MIL-STD 461F**, "Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment", Dec 2007, available at:
<http://snebulos.mit.edu/projects/reference/MIL-STD/MIL-STD-461F.pdf>.

3.2.3 CAN/CSA-C22.2 NO. 107.2-01 (R2011) – Battery Chargers.

3.2.4 Ingress Protection as defined in BS EN 60529:1992 (British), IEC 60509:1989 (European).

3.2.5 Transport of Dangerous Goods, <http://www.tc.gc.ca/eng/tdg/act-menu-130.htm>

4. SOFTWARE

4.1 RIID SOFTWARE

4.1.1 The Bidder must provide all software required for configuration, calibration, operation, data transfer, or maintenance for both RIID variants;

4.1.2 This RIID software must be provided installed on the RIIDs and a separate soft copy must be provided on CD or DVD; and

4.1.3 The Version number must be clearly indicated.

4.2 ANALYSIS SOFTWARE

4.2.1 The Bidder must provide software for viewing and analyzing the spectra on a stand-alone computer.

4.2.2 All Analysis Software must be compatible with Microsoft Windows operating systems (Windows 7, Windows 8).

4.3 SOFTWARE LICENSES AND UPDATES

4.3.1 The Bidder must provide software licenses for the installation of the analysis software on an unlimited number of DND computers; and

4.3.2 Software updates must be provided for a period of ten (10) years following contract award.

- Here “update” means all patches, extensions, or other modifications to the software necessary to maintain or achieve the advertised performance and information security of the system.

5. INTEGRATED LOGISTICS SUPPORT

5.1 MANUALS

5.1.1 The Bidder must provide an Operator's Manual for each variant;

- One Operator's manual is acceptable if it contains all the information required to operate both variants.

5.1.2 The Operator's Manual(s) must provide all the necessary instructions for an untrained operator to allow successful operation, menu modification, data download, and fault diagnosis of the RIID.

5.1.3 The Operator's manual(s) must be in both of Canada's official languages (English and French);

5.1.4 A searchable electronic version of the Operator's Manual should be provided on CD or DVD, but a hard copy must accompany each RIID; and

5.1.5 The Operator's Manual(s) must be of a physical size to permit it to be stored securely in the case.

5.2 QUICK REFERENCE GUIDE

5.2.1 The Bidder must provide a Quick Reference Card;

5.2.2 The Quick Reference Card must be subject to approval by the Technical Authority, and must include, at a minimum, the basic operating information for users to search, locate and identify unknown radioactive material.

5.2.3 The Quick Reference Card must be laminated;

5.2.4 The Quick Reference Card must fit securely and easily into the case; and

5.2.5 The Quick Reference Card must be bilingual (English / French).

5.3 KIT CHECK LIST

5.3.1 The Bidder must provide a Kit Checklist with an itemized list of all the case contents;

5.3.2 The Kit Checklist must be subject to approval by the Technical Authority, and must include, as a minimum:

- a) Name;
- b) Part number; and
- c) Quantity of each item contained within the case.

5.3.3 The Kit Checklist must be laminated;

5.3.4 The Kit Checklist must fit securely and easily into the case; and

5.3.5 The Kit Checklist must be bilingual (English / French).

5.4 CASE LAYOUT DRAWING

- 5.4.1 The Bidder must provide a Case Layout Drawing with a detailed view of the case size, colour, contents and layout;
- 5.4.2 The Case Layout Drawing must be subject to approval by the Technical Authority, and must include, as a minimum:
- a) Locations of all stickers / labels required by this SOR;
 - b) Case colour, part number and external dimensions; and
 - c) Drawing or photograph of the case showing the location of all foam cuts, with their contents present.
- 5.4.3 The Case Layout Drawing must be laminated; and
- 5.4.4 The Case Layout Drawing must be bilingual (English / French).

The Case Layout Drawing and the Kit Checklist may be combined into one item, at the approval of the TA.

5.5 RECOMMENDED SPARE PARTS LIST

- 5.5.1 The Bidder must provide, to the Technical Authority prior to equipment delivery, a list detailing the spare parts deemed necessary to maintain the equipment for a period of 12 months exclusive of any warranty period, for each variant. For each part listed, the following elements shall be included:
- a) Part description;
 - b) Original Equipment Manufacturer;
 - c) Original Equipment Manufacturer Part Number;
 - d) Suggested quantity; and
 - e) Unit cost.

6. TRAINING

6.1 TRAINING MATERIAL

- 6.1.1 The Bidder must provide, for TA approval, a bilingual training syllabi, which must include, at a minimum:
- a) A list of topics to be covered;
 - b) An approximate timetable showing when topics are scheduled (order) to be covered and how much time is scheduled for each topic;
 - c) Lists any reference material; and
 - d) Make available any reference material used.
- 6.1.2 The Bidder must provide a Teaching Package, which must include at a minimum:
- a) An MS PowerPoint presentation including all teaching notes.

6.2 OPTIONAL USER TRAINING SESSIONS

- 6.2.1 If exercised, the objectives of the optional User Training Sessions are to establish an initial cadre of knowledgeable operators.
- 6.2.2 If exercised, the contents of the training materials as described above must be submitted for TA approval;
- 6.2.3 If exercised, the Contractor must supply all teaching materials, including class handouts and additional material;
- 6.2.4 Each User Training Session must not exceed one (1) day duration;
- 6.2.5 The Contractor must provide a trainer for up to two training sessions;
- 6.2.6 All User Training Sessions will be conducted at DND facilities. DND will provide the necessary presentation equipment (such as projector, computer and whiteboard);
- 6.2.7 DND will arrange to provide a RIID for the Training Session;
- 6.2.8 The Training Session class size is not expected to exceed twenty (20) persons; and
- 6.2.9 The contractor must allow DND to reproduce content from the contractor training manual in the DND training package.

APPENDIX A

TECHNICAL SPECIFICATIONS

1 TECHNICAL SPECIFICATION – RIID

1.1 TECHNICAL OVERVIEW

1.1.1 Unless otherwise specified, the requirements listed here apply to both RIID Variants.

1.1.2 All dimensions are provided in metric (S.I.) units.

1.1.3 The RIID will be used for the detection and identification of radionuclides, and for gamma-ray exposure rate measurement, and for indication of neutron radiation.

- NOTE: only the High Resolution RIID variant will be require to support neutron detection.

1.2 PHYSICAL CHARACTERISTICS

The RIID must:

- A1. Be hand-held (one hand operation);
- A2. Weigh no more than 3.5kg, including batteries and all components required for normal operation;
 - Note: this refers only to the RIID when it is deployed and functioning, and not to the case and any support equipment not required for immediate operation.
- A3. NOT possess a detachable probe;
- A4. Have an integrated display screen;
- A5. Be battery powered;
- A6. Be operable for a minimum of 6 hours of continuous use (in “search mode”);
- A7. Be equipped with a standard headphone jack;
 - Be 2.5mm or 3.5mm;
 - Inserting the headphones into the jack will automatically override the speakers.
- A8. Be designed for outdoor use;
- A9. Be weather-tight to IP54;
- A10. Operate in accordance with the requirements of this SOR within a temperature range of -20 °C to +50 °C;
- A11. Be fully functional at up to 93% humidity at 35°C; and
- A12. Be provided in either black or olive drab;
- A13. Supplied with a shoulder strap, or similar weight distribution mechanism;

- A14. Be capable of being setup, equipped and operated by personnel wearing protective CAF CBRN gloves;
- The intent of this requirement is twofold: to ensure all knobs, latches, closures, fasteners, dials, switches, buttons and other design elements can be manipulated or controlled, as required, by personnel wearing protective CBRN gloves; and to ensure there are no sharp parts or tools that could inadvertently breach personal protective clothing.
- A15. Have all battery caps, protective covers or otherwise removable components be held captive by lanyards, chains or other appropriate mechanisms to prevent loss; and
- A16. Be designed for use in all lighting conditions (from 150 lux to 10,000 lux), with all displays and indicators; and being readily visible and easily readable in all lighting conditions, ranging from direct sunlight to complete darkness, without requiring external light sources.

1.3 OPERATING MODES

The RIID must have at a minimum two distinct operating modes that allow the following functions:

- A17. Routine or Simple Mode: An operating mode that includes detection, identification of radionuclides and exposure rate measurements, and neutron detection (for high-resolution system); and
- A18. Restricted or Expert Mode: An advanced mode that is accessible to an expert user (i.e. through the use of a password) to control parameters that effect the underlying function of the RIID (e.g. alarm settings, calibration parameters, control functions, radionuclide library).

1.4 COMMUNICATIONS

The RIID must transfer data to an external computer as required.

- A19. Data transfer must be accomplished through one or both of the following (primary) bi-directional methods:
- Ethernet or USB
 - If wireless communication is provided in addition, a method to disable it must be provided.
- A20. The RIID must be capable of storing a minimum of 50 complete (unprocessed) spectra;
- A21. The following data (at a minimum) must be stored and transferred with the spectra:
- Time and date;
 - Any errors;
 - Identified radionuclides, categories, and associated confidence indications;
 - Spectrum integration times;
 - Measured gamma ray exposure rates; and
 - Neutron count rate at the time of measurement (if applicable)
- A22. Data must be transferred using the data format defined in ANSI N42.42; and
- A23. Data transfer must occur either without the need of proprietary software, or if proprietary software is required to transfer or format the data, it must be provided as part of the kit.

1.5 WARM UP TIME

The RIID will be considered warmed up when it is capable of responding to user input commands and performing any function specified (e.g. detection, identification).

- A24. The warm up time from a dead start (i.e. powered off, with no batteries) must not exceed 3 minutes. This time includes the time to record and process any background or automatic measurements performed upon start-up.
- A25. The warm up time from standby mode (i.e. a power conservation mode in which the RIID does not need to be re-initialized upon restart) must not exceed 20 seconds.

1.6 POWER SUPPLY

The RIID must:

- A26. Be equipped with a test circuit or other direct indicator of battery condition (e.g. operating time before battery failure), and
- A graphical representation is acceptable, provided there is a warning of impending battery failure.
- A27. Come provided with a complete second set of batteries (capable of powering the RIID).

If operated using consumable batteries, the batteries must be:

- A28. A commercial of the Shelf (COTS) variety (i.e. not proprietary); and
- A29. Field replaceable, requiring no special tools.

If operated using rechargeable batteries:

- A30. The batteries and charger must meet all Canadian electrical standards (i.e. CAN/CSA-C22.2 NO. 107.2-01);
- A31. The batteries and charger must be compatible with a single-phase 120 VAC, 15A, 60 Hz power supply; and
- A32. The battery charger must charge fully depleted batteries to full power in less than 6 hours (i.e. there will be no operational period when both sets of batteries are depleted).

1.7 RANGE OF MEASUREMENT

The RIID effective gamma-ray energy response range must at a minimum include the range:

- A33. 30 keV to 3 MeV

1.8 AUDIBLE INDICATORS AND ALARMS

The RIID must provide a variety of audible feedback to the user to accompany the visual display.

The RIID must:

- A34. Allow its illuminated indicators (such as screen or LEDs) to be dimmed;
- A35. Provide a setting which allows the audible indicators to be diminished and disabled;
- A36. Provide an audible indication (mutable) proportional to the exposure rate (“chirping”);

A37. Provide an audible and visible indication (alarm), distinct from other signals, indicating when a dose rate threshold has been exceeded;

- Dose rate alarms must exist for gamma dose rate on both variants;
- Neutron dose rate alarm must exist on the High Resolution RIID;
- These dose rate alarms are to be set from within the advanced user mode.

A38. An “acknowledge” or similar control to silence audible alarms;

A39. When exposed to a gamma or neutron (if applicable) dose rate that exceeds the alarm threshold, an alarm is triggered; and

A40. An alarm will NOT occur as a result of radio frequency radiation alone.

1.9 SELF CALIBRATION AND STABILIZATION

The RIID must be capable of maintaining its calibration and stabilization (temperature drift) in the field.

A41. Calibration and stabilization must NOT require an external source;

A42. If the calibration method involves a radioactive source, it must be below Exemption Quantity (EQ), and be considered safe to transport according to Transport of Dangerous Goods criteria;

A43. If a radioactive source is used, its location, species and activity (initial activity and date), must be clearly indicated;

A44. Calibration must be performed automatically upon start-up;

A45. Stabilization must be performed automatically upon start-up;

A46. The RIID must allow calibration to be initiated manually by the user at any time (in all operating modes); and

A47. The RIID must allow stabilization to be initiated manually by the user at any time (in all operating modes).

1.10 SPECTROSCOPIC PROPERTIES

The RIID must be simultaneously equipped with the following 4 libraries (at a minimum):

A48. Special Nuclear Material (SNM): ^{233}U , ^{235}U , ^{237}Np , and Pu

A49. Medical: ^{18}Fe , ^{67}Ga , ^{51}Cr , ^{75}Se , ^{99}Mo , $^{99\text{m}}\text{Tc}$, ^{103}Pd , ^{111}In , ^{123}I , ^{125}I , ^{131}I , ^{153}Sm , ^{201}Tl , and ^{133}Xe

A50. Naturally Occurring Radioactive Materials (NORMs): ^{40}K , ^{226}Ra , ^{232}Th (and daughters), ^{238}U and daughters.

A51. Industrial: ^{57}Co , ^{60}Co , ^{133}Ba , ^{137}Cs , ^{192}Ir , ^{204}Tl , ^{226}Ra and ^{241}Am

A52. In addition to the aforementioned libraries, the RIID must have the capability to allow user-defined libraries to be entered.

A53. The Full Width Half Maximum (FWHM) of the ^{137}Cs 662 keV photo-peak must be no greater than:

- 8% for the standard resolution variant
- 4% for the high resolution variant.

A54. The RIID must be able to identify each of the following radionuclides both unshielded and shielded (by 5mm steel), given an exposure rate of 0.5 μ Sv/h (above background), within 2 minute:

- ^{40}K , ^{57}Co , ^{60}Co , ^{67}Ga , $^{99\text{m}}\text{Tc}$, ^{125}I , ^{131}I , ^{133}Ba , ^{137}Cs , ^{192}Ir , ^{201}Tl , ^{226}Ra , ^{232}Th , ^{233}U , ^{235}U , ^{238}U , ^{241}Am , and Pu

In the presence of multiple radionuclides, the RIID must:

A55. Be able to identify a minimum of any two radionuclides listed in this SOR simultaneously; and

A56. Provide a confidence for each radionuclide identified.

When displaying (or transferring) spectral data, the RIID must:

A57. Be capable of displaying the spectra visually as it is compiled;

A58. Indicate the time remaining for identification;

A59. Indicate when an isotope fails to be identified; and

A60. Indicate whether the exposure rate is too high or too low for an identification to be achieved.

In the absence of any radio-isotopes (other than naturally occurring background), the RIID must:

A61. Not indicate the presence of any radio-isotopes (other than naturally occurring background).

1.11 ENERGY SENSITIVITY

A62. The Basic RIID must generate:

- within the 60 keV photopeak, a minimum of 35 counts/MBq/second at a distance of 1 meter from a ^{241}Am source;
- within the 662 keV photopeak, a minimum of 30 counts/MBq/second at a distance of 1 meter from a ^{137}Cs source; and
- within the 1173 keV photopeak, a minimum of 12 counts/MBq/second at a distance of 1 meter from a ^{60}Co source.

A63. The High Resolution RIID must generate:

- within the 60 keV photopeak, a minimum of 17 counts/MBq/second at a distance of 1 meter from a ^{241}Am source;
- within the 662 keV photopeak, a minimum of 16 counts/MBq/second at a distance of 1 meter from a ^{137}Cs source; and
- within the 1173 keV photopeak, a minimum of 6 counts/MBq/second at a distance of 1 meter from a ^{60}Co source.

1.12 RADIOLOGICAL PROPERTIES

The RIID must:

- A64. Indicate an increase in exposure rate within 2 seconds of exposure to a gamma field more than three times background (but less than the upper range of the device);
- A65. Displayed the exposure rate within 40% of the actual value within 5 seconds of exposure to a gamma field more than three times background (but less than the upper range of the device);
- A66. Upon removal from the above field, display a decrease in exposure rate within 2 seconds;
- A67. Upon removal from the above field, display within 5 seconds an exposure rate within 30% of the original (pre-exposure) reading;
- A68. Possess an intrinsic error of <40% for exposures to a ¹³⁷Cs source over a range of 1µSv/h to 80% of the maximum claimed response of the instrument; and
- A69. Correctly identify a radionuclide of interest (as per libraries in A48, A49, A50, and A51) in the presence of elevated gamma background (i.e. the intensity of the ²³²Th background is equal to the intensity of the radionuclide of interest).
- A70. Possess a neutron detector separate from the gamma detector (applies only to the High Resolution RIID).

2 TECHNICAL SPECIFICATION – ANCILLARY EQUIPMENT

2.1 TECHNICAL OVERVIEW

- 2.1.1 A separate case is to be provided for each RIID.
- 2.1.2 Unless otherwise specified, each requirement applies to the case for the Basic RIID and the case for the High Resolution RIID.
- 2.1.3 All dimensions are provided in metric (S.I.) units.

2.2 TRANSPORT CASE

- A71. Each RIID and all associated components must be contained in a durable, hard-shell, case that must protect the contents during storage and during transport in vehicles, ships or aircraft.
- A72. Each case must have a minimum of one handle.
- A73. Each case must provide a minimum ingress protection of IP54.
- A74. The interior of each case must be lined with foam or other suitable, flexible, shock-absorbing material, to provide secure and fitted storage for all case contents.
- A75. Each case must NOT be provided with locks.
- A76. Each case must be able to be sealed with tamper-evident seals to indicate if the case has been opened during transit.
- A77. While the preferred case colour is either black or olive drab, each case must be of any colour except Yellow, Orange, Red or Blue.

In addition to the RIID, each case must securely contain the following items (as a minimum):

- A78. Operator's Manual as per 5.1;
- A79. Quick Reference guide as per 5.2;
- A80. Kit Checklist as per 5.3;
- A81. Case Layout Drawing as per 5.4
- A82. If consumable batteries are employed, one complete set of spare batteries;
- A83. If rechargeable batteries are employed, one complete set of spare rechargeable batteries and associated battery charger (and required cabling);
- A84. Headphones that interface with the RIID headphone jack specified in A7; and
- A85. Any interface equipment required to transfer data to a computer, such as: software, cables, memory card or stick, *et cetera*.

All case contents, including the RIID, batteries and check source (internal to the RIID):

- A86. Must not require special measures for handling and storage; and
- A87. Must conform to all conditions regarding Transport Canada regulations governing the Transportation of Dangerous Goods.

As additional guidance, the case should be the smallest size practical for the items it contains, well organized and designed around a "grab and go" concept. The case layout should provide ready access to all ancillary equipment while the operator is wearing protective CBRN gloves.

2.3 CASE NAMEPLATE

- A88. The Bidder must provide a Case Nameplate for each case, providing all the necessary information to correctly identify the Kit which must include, at a minimum:
 - Equipment name;
 - Model number;
 - Vendor name; and
 - A clear distinction of which variant (Basic RIID or High Resolution RIID) the case contains.

2.3.1 The Case Nameplate must be subject to approval by the Technical Authority,

ANNEX "B"

BASIS OF PAYMENT

The Department of National Defence has a requirement for the purchase of new handheld Radio-Isotope Identification Devices (RIID). The two variants being sought are the Basic RIID with standard energy resolution and the High Resolution RIID with higher energy resolution.

The initial delivery will be for a guaranteed minimum purchase of twenty-five (25) Basic RIIDs and eleven (11) High Resolution RIIDs received no later than 31 March 2017. Optionally, a further five (5) Basic RIIDs and four (4) High Resolution RIIDs may be procured as part of the initial Contract Period.

Over the three (3) years following the initial delivery, options will exist for purchasing up to 30 additional Basic RIIDs and 15 High Resolution RIIDs.

Initial Contract Period

Description	Quantity	Firm Unit Price
Basic RIID	25 (up to 30)	\$
High Resolution RIID	11 (up to 15)	\$

Option for Additional Goods

		Option Year 1 (Apr.1/17 – Mar.31/18)	Option Year 2 (Apr.1/18 – Mar.31/19)	Option Year 3 (Apr.1/19 – Mar.31/20)
Description	Quantity	Firm Unit Price	Firm Unit Price	Firm Unit Price
Basic RIID	30	\$	\$	\$
High Resolution RIID	15	\$	\$	\$

ANNEX "C"

TECHNICAL EVALUATION

Radio-Isotope Identification Device (RIID) Technical Evaluation Plan

1. General

- 1.1 All RIIDs submitted must meet ALL the mandatory requirements as per Annex A of this document. All Bidder submissions that meet these mandatory requirements in full for BOTH Basic RIID and High Resolution RIID will be invited to undergo pre-award testing to determine a "Technical Merit Score".
- 1.2 All proposals submitted must be completed in full and provide all of the information required to demonstrate compliance to each mandatory. The onus is on the bidder to ensure the bid includes sufficient information for a reviewer who is initially unfamiliar with the proposed system to determine each mandatory requirement is met. Failure to provide sufficient information will result in a bid being deemed non-compliant.

2. Phase I – Mandatory Requirements

- 2.1 The specifications found in Annex A of this document are mandatory, and must each be met in full (for both systems) in order for the submission to be considered. Failure to adequately demonstrate any of the requirements (mandatory specifications) will end the evaluation process.
- 2.1.2 The technical requirements being specifically evaluated in this phase are denoted by a letter and a sequential number (A2...A88). The submissions must maintain this nomenclature – see the scoring sheet in section 2.2

2.2 Mandatory Requirement Evaluation

The following table will be used to determine the Bidder conformance (See Annex A for more details).

SOR Ref	System Name _____		Bidder Ref (doc, page)	Evaluator Notes	Pass / Fail
	Description				
A2	The RIID must weigh no more than 3.5kg (7.7lb), including batteries and all components required for normal operation.			Basic: High Resolution:	
A3	The RIID must NOT possess a detachable probe.			Basic: High Resolution:	
A4	The RIID must have an integrated display screen.			Basic: High Resolution:	
A6	The RIID must be operable for a minimum of 6 hours of continuous use (in "search mode"), on one full battery charge.			Basic: High Resolution:	
A7	The RIID must be equipped with a standard headphone jack.			Basic: High Resolution:	
A9	The RIID must be weather-tight to IP54			Basic: High Resolution:	
A10	The RIID must operate in accordance with the requirements of the SOR within a temperature range of -20 0C (-4 0F) to +50 0C (+122 0F)			Basic: High Resolution:	
A11	The RIID must be fully functional at up to 93% humidity at 35°C (+95 °F)			Basic: High Resolution:	

SOR Ref	System Name _____		Bidder Ref (doc, page)	Evaluator Notes	Pass / Fail
		Description			
A19	a	The RIID must transfer data through one or both of the following bi-directional methods: <ul style="list-style-type: none"> Ethernet or USB 		Basic: High Resolution:	
	b	If wireless communication is provided, a method to disable it must be provided ("not applicable" is acceptable if wireless is not an option).		Basic: High Resolution:	
A22		Data must be transferred using the data format defined in ANSI N42.42		Basic: High Resolution:	
A33		The RIID must have a minimum effective gamma-ray energy response range of 30 keV to 3 MeV.		Basic: High Resolution:	
A36		The RIID must provide an audible indication (mutable) proportional to the exposure rate ("chirping").		Basic: High Resolution:	
A38		The RIID must have an "acknowledge" or similar control to silence audible alarms.		Basic: High Resolution:	
A41		Calibration and stabilization of the RIID must NOT require an external source.		Basic: High Resolution:	
A44		Calibration must be performed automatically upon start-up.		Basic: High Resolution:	
A45		Stabilization must be performed automatically upon start-up.		Basic: High Resolution:	

SOR Ref	System Name _____		Bidder Ref (doc, page)	Evaluator Notes	Pass / Fail
		Description			
A46		The RIID must allow calibration to be initiated manually by the user at any time (in all operating modes). Note: calibration may be initiated coincidently with stabilization.		Basic: High Resolution:	
A47		The RIID must allow stabilization to be initiated manually by the user at any time (in all operating modes). Note: calibration may be initiated coincidently with stabilization.		Basic: High Resolution:	
A48		The RIID must be equipped with the following library: <i>Special Nuclear Material</i> (SNM): ²³³ U, ²³⁵ U, ²³⁷ Np, and Pu		Basic: High Resolution:	
A49		The RIID must be equipped with the following library: Medical: ¹⁸ Fe, ⁶⁷ Ga, ⁵¹ Cr, ⁷⁵ Se, ^{99m} Tc, ¹⁰³ Pd, ¹¹¹ In, ¹²³ I, ¹²⁵ I, ¹³¹ I, ¹⁵³ Sm, ²⁰¹ Tl, and ¹³³ Xe		Basic: High Resolution:	
A50		The RIID must be equipped with the following library: <i>Naturally Occurring Radioactive Materials</i> (NORMs): ⁴⁰ K, ²²⁶ Ra, ²³² Th (and daughters), ²³⁸ U and daughters		Basic: High Resolution:	
A51		The RIID must be equipped with the following library: <i>Industrial</i> : ⁵⁷ Co, ⁶⁰ Co, ¹³³ Ba, ¹³⁷ Cs, ¹⁹² Ir, ²⁰⁴ Tl, ²²⁶ Ra and ²⁴¹ Am		Basic: High Resolution:	
A53		The Full Width Half Maximum (FWHM) of the 662 keV ¹³⁷ Cs photo-peak must be no greater than: <ul style="list-style-type: none"> • 8% for the standard resolution variant • 4% for the high resolution variant 		Basic: High Resolution:	

SOR Ref	System Name _____	Bidder Ref (doc, page)	Evaluator Notes	Pass / Fail
	Description			
A54	<p>The RIID must be able to identify each of the following radionuclides both unshielded and shielded (by 5mm steel), given an exposure rate of 0.5 µSv/h (above background), within 2 minute:</p> <ul style="list-style-type: none"> ⁴⁰K, ⁵⁷Co, ⁶⁰Co, ⁶⁷Ga, ^{99m}Tc, ¹²⁵I, ¹³¹I, ¹³³Ba, ¹³⁷Cs, ¹⁹²Ir, ²⁰¹Tl, ²²⁶Ra, ²³²Th, ²³³U, ²³⁵U, ²³⁸U, ²⁴¹Am, and Pu 	Basic:		
A56	The RIID must provide a confidence for each radionuclide identified.		Basic:	
A60	When identifying a radio-isotope, the RIID must indicate when the exposure rate is too high or too low for an identification to be achieved.		High Resolution:	
A62			Basic:	
a	The Basic RIID must generate a minimum of 35 counts/MBq/second at a distance of 1 meter from an ²⁴¹ Am source, within the 60 keV photopeak.		High Resolution:	
b	The Basic RIID must generate a minimum of 30 counts/MBq/second at a distance of 1 meter from a ¹³⁷ Cs source, within the 662 keV photopeak.		Basic:	
c	The Basic RIID must generate a minimum of 12 counts/MBq/second at a distance of 1 meter from a ⁶⁰ Co source within the 1173 keV photopeak		Basic:	

SOR Ref	System Name _____	Bidder Ref (doc, page)	Evaluator Notes	Pass / Fail
	Description			
A63 a	The High Resolution RIID must generate a minimum of 17 counts/MBq/second, at a distance of 1 meter from a ²⁴¹ Am source, within the 60 keV photopeak.		High Resolution:	
b	The High Resolution RIID must generate a minimum of 16 counts/MBq/second, at a distance of 1 meter from a ¹³⁷ Cs source, within the 662 keV photopeak.		High Resolution:	
c	The High Resolution RIID must generate a minimum of 6 counts/MBq/second, at a distance of 1 meter from a ⁶⁰ Co source, within the 1173 keV photopeak.		High Resolution:	
A69	The RIID must correctly identify a radionuclide of interest (as per libraries in A48, A49, A50, and A51) in the presence of elevated gamma background (i.e. the intensity of the ²³² Th background is equal to the intensity of the radionuclide of interest).		Basic:	
			High Resolution:	

2.2.1 The Bidder's Proposal that meets all of the requirements in Phase I will then proceed to Phase II to establish a technical merit score. This applies only if BOTH the Basic RIID AND the High Resolution RIID pass Phase I.

3. Functional Criteria Testing

3.1 Procedure

- 3.1.1 PSPC will notify the Bidder of a successful completion of Phase I and Canada's intent to perform Phase II testing. The Bidder must deliver one full kit of each type (High Resolution RIID which includes neutron detection, and a Basic RIID which does not include neutron detection) to be supplied to DND. The RIIDs will be sent to this address:
101 Colonel By Drive,
Ottawa, ON, K1A 0K2
Canada
Attention: *(to be named at contract award)*
- 3.1.2 Each kit must be delivered to DND within 10 business days of the request from DND, along with any manuals or material that would normally accompany each unit.
- N.B. as this testing occurs prior to contract award, only the COTS RIIDs are required, the DND specific requirements (such as the case layout drawing and training) are not required at this point in the process.
- 3.1.3 Failure to provide one of each RIID type within 10 business days of the DND request will result in the disqualification of the Bidder.
- 3.1.4 Testing will occur at Defence Research and Development Canada – Ottawa (DRDC).
- 3.1.5 DRDC will provide a test report to the DND Evaluation Panel detailing the performance of each RIID. This report will be used by the DND Evaluation Panel to assign points to the RIIDs.
- 3.1.6 The DND Evaluation Panel will consist of stakeholders who are available at the time the evaluation occurs. These stakeholders may comprise RIID operators, Defense Scientists, Defense Contractors (through Calian Group), DND Civilian Employees, and / or Military personnel.
- 3.1.7 Both the Basic RIID and the High Resolution RIID will be scored separately.
- 3.1.8 Scoring will consist of two phases: Functional Criteria Testing and General Criteria Evaluation
- 3.1.9 The Functional Criteria Testing is designed to quantify how well each RIID performs above certain mandatory requirements.
- 3.1.10A minimum score of 11 points (out of 22) is required to pass Phase II and proceed to Phase III.
- Failure to achieve a minimum score of 11 points on Functional Criteria Testing will result in the bid being declared non-compliant** – including the other RIID variant regardless of its own performance (e.g. if the Basic RIID scores a Functional Criteria Testing score of 75% and the High Resolution RIID scores 40%, both would be eliminated from further consideration).
- 3.1.11 Bidders who pass Phase II testing will then proceed to Phase III evaluation.

4. General Criteria Evaluation

- 4.1 Phase III - The General Criteria Evaluation is used to score the RIIDs in terms of added value above the mandatory requirements). As such, no minimum score is required for the General Criteria Evaluation.
- 4.2 The points scored by both RIID variants in Phase II and Phase III are added to produce the "Technical Merit" score of the system.
- 4.3 At the conclusion of the testing and evaluation, DND will return both the Basic and the High Resolution RIIDs to the Bidder. The Bidder must provide a "ship to" location for the return of the unit.

5. Phase II - Functional Criteria Testing

All Functional Criteria will be tested by the DND, no attestation or other method of scoring will be substituted. The following sections describe the tests that will be performed, and the method of scoring each test.

5.1 Phase II Evaluation Methods

Test

Test is a method of verification whereby the properties, characteristics, and parameters of the item are determined by testing the performance against the requirements. A test may or may not consist of sub-tests.

Sub-Test

A test may consist of multiple smaller tests (sub-test). As an example, the Ambient Temperature Test is performed at -20°C, 22°C and 50°C, so it consists of three sub-tests, one for each temperature.

Points

A number of Points is assigned for each criterion. The tested criteria are described below, and can range in value from -1 to 1. In the cases where a tested criterion relates to a mandatory requirement, failure results in a summary ruling of non-conformant for the RIID. Points are assigned to each result of each test or sub-test.

Average Points

The Average Points is determined using both the number of trials (times a test is repeated) and the number of sub-tests. Using the example of the Ambient Temperature Test, there are ten trials (repetitions) for each of the three temperatures being used, resulting in points being determined thirty times. The average points would then be the total number of points divided by thirty.

Weighting Factor

Different criteria have an intrinsically different value to DND, as such a weighting factor (Weight) is applied to reflect this scale of importance.

Score

The Score is simply the Average Points multiplied by the Weight.

The following eight sections detail the assignment of points for each test, and the conversion of points to a score.

5.1.1 Ambient Temperature Response

The RIID must be placed in an environmental control chamber with two sources chosen from the list detailed in the mandatory requirements (A48 – A51), each producing a field of the same intensity (at the location of the RIID). The chamber will then cycle to: -20°C, 22°C and 50°C. Isotope identification will be performed at each temperature; the process will be performed ten times. Points will be assigned as per the following table:

Points	Test Result
1	Two isotopes ID'ed and both are correct, or 2 and a shielded or unknown response.
0.75	3+ isotopes ID'ed, including the two correct isotopes (one correct has the highest confidence) or 1 ID'd and unknown or Shielded.
0.5	3+ isotopes ID'ed, including the two correct isotopes (but they are not the highest 2 confidence isotopes)
0.25	1+ isotopes ID'ed including "shielded" or "unknown" and only one correct isotope
0	No isotope ID'ed
-1	1+ isotopes ID'ed, but none is correct
FAIL*	No isotope ID'ed, or 1+ isotopes ID'ed, but none is correct - more than once at a single temperature. This indicates a failure of Mandatory Requirement A10 (as described in Annex A) and will result in the RIID being declared non-compliant.

DND will score using the following table (points are provided for illustration purposes only). The maximum number of points for these criteria (for each variant) is 30 – ten points for the tests performed at each of the three temperatures:

Example Trial #	Basic RIID			High Resolution RIID		
	-20°C	22°C	50°C	-20°C	22°C	50°C
1	1	1	0.5			
2	0.75	1	0.5			
3	0.75	1	0.5			
4	1	1	0.75			
5	1	1	0.75			
6	1	1	0.5			
7	0.5	1	0.5			
8	0.75	1	0.5			
9	0.75	1	0.5			
10	0.5	1	1			
Sub-Totals	8	10	6			
	Total Points	24				
	Average Points	0.8				
	Weight	2				
	Score	1.6				

5.1.2 Thermal Shock

The RIID must be placed in an environmental control chamber with two sources chosen from list detailed in the mandatory requirements (A48 – A51), each producing a field of the same intensity (at the location of the RIID). The RIID will be asked to perform isotope identification each time the chamber cycles between the following temperatures:

-20°C to 20°C, 20°C to -20°C, 20°C to 50°C, and 50°C to 20°C.

The process will be repeated ten times. The following table will be used to assign points:

Points	Test Result
1	Two isotopes ID'ed and both are correct, or 2 and a shielded or unknown response. I.e. Am-241 + Co-60 or Am-241 + Co-60 + shielded (or unknown)
0.75	3+ isotopes ID'ed, including the two correct isotopes (one correct has the highest confidence) or 1 ID'd and unknown or Shielded.
0.5	3+ isotopes ID'ed, including the two correct isotopes (but they are not the highest 2 confidence isotopes)
0.25	1+ isotopes ID'ed including "shielded" or "unknown" and only one correct isotope
0	No isotope ID'ed,
-1	1+ isotopes ID'ed but none is correct.

The results will be scored using the following table (points are provided for illustration purposes only). A second table will be used to score the High Resolution RIID.

Example Trial #	Basic RIID			
	-20°C to 20°C	20°C to -20°C	20°C to 50°C	50°C to 20°C
1	1	1	0.5	1
2	0.75	1	0.5	1
3	0.75	1	0.5	1
4	1	1	0.75	-1
5	1	1	0.75	0
6	1	1	0.5	1
7	0.5	1	0.5	1
8	0.75	1	0.5	0.75
9	0.75	1	0.5	0.75
10	0.5	1	1	0.5
Sub-Total	8	10	6	6
Total Points	30			
Average Points	0.75			
Weight	3			
Score	2.25			

5.1.3 Cold Temperature Start Up

The RIID must be placed inside an environmental chamber, hooked up to an external power source, but turned off. Two sources chosen from list detailed in the mandatory requirements (A48 – A51) will be placed at a distance from the RIID where each produces a field of the same intensity.

The environmental chamber will be set to -20° C for 1.5 hours. After this incubation period, the detectors will be turned on. Ten radiological identification trials will be performed. Points will be assigned using the following table:

Points	Test Result
1	Two isotopes identified and both are correct.
0.75	3+ isotopes identified, including the two correct isotopes (and one of the correct isotopes has the highest confidence).
0.5	3+ isotopes identified, including the two correct isotopes (but the highest confidence isotope is not correct), or 1 isotope identified and it is correct.
0.25	2+ isotopes identified but only one is correct.
0	No isotopes identified, or system fails to initialize.
-1	1+ isotopes identified but none is correct.

The results will be scored using the following table (points are provided for illustration purposes only):

Example	Basic RIID		High Resolution RIID	
	-20°C for 1.5 hours		-20°C or 1.5 hours	
Trial #				
1	1		0.5	
2	0.75		0.5	
3	0.75		0.5	
4	1		0.75	
5	1		0.75	
6	1		0.5	
7	0.5		0.5	
8	0.75		0.5	
9	0.75		0.5	
10	0.5		1	
Sub-Totals	8		6	
Total Points	8		6	
Average Points	0.8		0.6	
Weight	2		2	
Score	1.6		1.2	

5.1.4 False Positive

The RIID will be set to identify mode in a field consisting of only background (i.e. absence of a source). It will be left to identify for two minutes. This will be repeated ten times. Points will be assigned using the following table.

Points	Test Result
1	10/10 correctly identify only NORM
0.5	9/10 correctly identify only NORM, 1/10 incorrectly claim the presence of another isotope
FAIL*	2+/10 incorrectly claim the presence of another isotope. This indicates a failure of Mandatory Requirement A61 (as described in Annex A).

The results will be scored using the following table (points are provided for illustration purposes only):

Example	Basic RIID	High Resolution RIID	
Trial #	False Positive Score	False Positive Score	
1	1	0.5	
2	0.5	0.5	
3	0.5	0.5	
4	1	0.5	
5	1	0.5	
6	1	0.5	
7	0.5	0.5	
8	0.5	0.5	
9	0.5	0.5	
10	0.5	1	
Sub-Total	7	5.5	
	Total Points	7	5.5
	Average points	0.7	0.55
	Weight	1	1
	Score	0.7	0.55

5.1.5 CBRN Glove Test

Two testers will wear CBRN gloves and will each attempt to perform the following actions on the RIIDs, navigating menus as required.

- | | |
|-------------------------------------|----------------------------------|
| 1. Retrieve the RIID from the case; | 7. Store the spectrum; |
| 2. Replace the batteries; | 8. Retrieve the spectrum; |
| 3. Power on; | 9. Adjust the alarm threshold; |
| 4. Acquire a background; | 10. Acknowledge alarm; |
| 5. Enter "search mode"; | 11. Turn off the RIID; and |
| 6. Acquire a spectrum; | 12. Secure the RIID in the case. |

Attempts will be deemed to be performed either "normally" or "with difficulty".

"Normally" is defined here as successfully completing each of the above tasks with no more than two attempts, and being able to perform these tasks in the same manner as an un-gloved individual would (e.g. not requiring the use of tools not normally employed).

"With difficulty" is defined here as requiring more than two attempts to accomplish one of the above tasks, or having to modify the method that would be used by an un-gloved individual.

This test will be performed once for each RIID. The following table will be used to assess the RIID under test.

Points	Test Result
1	All functions performed by both testers normally.
0.5	All functions performed by both testers, but with difficulty performing one or more actions.
FAIL	Inability to complete any task. This indicates a failure of Mandatory Requirement A14 (as described in Annex A) and will result in the RIID being declared non-compliant.

The results will be scored using the following table (points are provided for illustration purposes only):

Example	Basic RIID	High Resolution RIID
Trial #	CBRN Glove Test	CBRN Glove Test
1	1	0.5
Total Points	1	0.5
	Weight	2
	Score	2
		1

5.1.6 Multiple Radio-Isotope ID test

There will be four (4) separate sub-tests. The detector will be exposed to a field of:
Pu and ¹³³Ba, Pu and ¹²⁵I, Pu and ¹⁹²Ir, and to Pu and ⁶⁰Co.

The tests will be performed ten times each. Points will be assigned using the following table:

Points	Test Result
1	Two isotopes identified and both are correct.
0.75	3+ isotopes identified, including the two correct isotopes (and one of the correct isotopes has the highest confidence).
0.5	3+ isotopes identified, including the two correct isotopes (but the highest confidence isotope is not correct), or 1 isotope identified and it is correct.
0.25	2+ isotopes identified but only one is correct.
0	No isotopes identified.
-1	1+ isotopes identified but none is correct.

The results will be scored using the following table (points are provided for illustration purposes only). A second table will be used to score the High Resolution RIID.

Example Trial #	Basic RIID			
	Pu and ¹³³ Ba	Pu and ¹²⁵ I	Pu and ¹⁹² Ir	Pu and ⁶⁰ Co
1	1	1	0.5	1
2	0.75	1	0.5	1
3	0.75	1	0.5	1
4	1	1	0.75	-1
5	1	1	0.75	-1
6	1	1	0.5	1
7	0.5	1	0.5	1
8	0.75	1	0.5	0.75
9	0.75	1	0.5	0.75
10	0.5	1	1	0.5
Sub-Total	8	10	6	5
Total Points	29			
Average Points	0.725			
Weight	8			
Score	5.8			

5.1.7 Gamma Dose Rate Over-Range Response

The RIID is placed in front of a source that produces a field at the RIID higher than the alarm threshold. Shielding will be placed between the source and the RIID, such that the field at the RIID drops well below the alarm threshold. At time = 0 the shielding is removed and the RIID is exposed to the high field. The test will be repeated ten times. Points will be assigned using the following table:

Points	Test Result
1.00	The RIID alarms after no more than 4 seconds.
0.50	The RIID alarms between 4 and 8 seconds.
0.00	The RIID does not alarm within 8 seconds.

For the second part of the test, the shield is put back in place, and the field drops again to the shielded levels (well below alarm threshold). The test will be repeated ten times. The following table is used to assign points:

Points	Test Result
1.00	The RIID reads background after no more than 5 seconds.
0.50	The RIID reads background between 5 and 8 seconds.
0.00	The RIID does not return to background within 8 seconds.

The results will be scored using the following table (points are provided for illustration purposes only):

Example Trial #	Basic RIID		High Resolution RIID	
	Unshielded (alarm)	Shielded (No Alarm)	Unshielded (alarm)	Shielded (No Alarm)
1	1	0.5	1	0.5
2	1	1	1	0.5
3	0.5	0.5	1	0.5
4	1	0.5	1	0.5
5	1	0	1	0.5
6	1	0	1	0.5
7	1	0.5	1	0.5
8	1	0.5	1	0.5
9	0.5	0.5	1	0.5
10	1	1	1	0.5
Sub-Total	9	5	10	5
	Total Points	14		15
	Average Points	1.4		1.5
	Weight	2		2
	Score	2.8		3

5.1.8 Gamma Dose Rate

The RIID will be placed in known fields (5, 20, and 80 $\mu\text{Sv/hr}$), after a minimum of 30 seconds, a dose reading is recorded. Points are assigned using the following table. Only the best score applies (e.g. a detector within 30% does NOT get 0.5, plus 0.25 for also being within 35%).

Points	Test Result
1.00	If the RIID reading is within 20% of the nominal value
0.75	If the RIID is within 25% of the nominal value
0.50	If the RIID is within 30% of the nominal value
0.25	If the RIID is within 35% of the nominal value
-1.00	If the RIID reading deviates by more than 40%

The results will be scored using the following table (points are provided for illustration purposes only). A second table will be used to score the High Resolution RIID.

Example Trial #	Basic RIID		
	5 $\mu\text{Sv/hr}$	20 $\mu\text{Sv/hr}$	80 $\mu\text{Sv/hr}$
1	1	0.5	1
2	1	0.5	1
3	1	0.5	1
4	1	0.75	-1
5	1	0.75	-1
6	1	0.5	1
7	1	0.5	1
8	1	0.5	0.75
9	1	0.5	0.75
10	1	1	0.5
Sub-Total	10	6	5
	Total Points	21	
	Average Points	0.7	
	Weight	2	
	Score	1.4	

5.2Phase II - Scoring Tables

The following tables are used to summarize the scores for the Functional Criteria Testing.
Only Bidders who achieve a score of 50% (11/22) or more will proceed to Phase III testing.

Basic RIID - Phase II Scoring				
Ref No.	Functional Criterion	Average Points	Weight	Score
A10	Ambient Temperature Response		2	
A10	Thermal Shock		3	
A10	Cold Start		2	
A14 (of the SOR)	CBRN Glove Test		2	
A55	Multiple Radio-Isotope ID test		8	
A61	False Positive		1	
A64, A67 (of the SOR)	Gamma Dose Rate Over-Range Response		2	
A68	Gamma Dose Rate		2	
Functional Criteria Score				/22

Meets Minimum Functional Score of 11 Y / N

High Resolution RIID - Phase II Scoring				
Ref No.	Functional Criterion	Average Points	Weight	Score
A10	Ambient Temperature Response		2	
A10	Thermal Shock		3	
A10	Cold Start		2	
A14 (of the SOR)	CBRN Glove Test		2	
A55	Multiple Radio-Isotope ID test		8	
A61	False Positive		1	
A64, A67 (of the SOR)	Gamma Dose Rate Over-Range Response		2	
A68	Gamma Dose Rate		2	
Functional Criteria Score				/22

Meets Minimum Functional Score of 11 Y / N

6. PHASE III - General Criteria Evaluation

General Criteria Evaluation will be tested by a combination of Inspection, Testing and Contractor Certification.

Inspection (I)

The inspection will consist of verification of the physical characteristics by examination of the equipment and associated documentation. Comparison of pertinent characteristics may be done against a predetermined qualitative or quantitative standard.

Test (T)

Test is a method of verification whereby the properties, characteristics, and parameters of the item are determined by testing the performance against the requirements. A test may or may not consist of sub-tests.

Contractor Certification (CC)

Contractor Certification (CC) is a method of confirmation of certain characteristics of the system. The confirmation is provided by some form of internal review or assessment by the Contractor. It could be Analysis / Calculations (A/C), or Documentation (D).

As the General Criteria Evaluation is less complex than testing; the scoring reflects this, by having the weight built into the score.

6.1 Phase III Evaluation Methods

The following sections describe the evaluations that will be performed, and the method of scoring each.

6.1.1 RIID Weight

The weight will be determined with the RIID in the "operational configuration" (batteries and shoulder strap, and anything else the user would have attached in the field). What constitutes operational configuration will be determined by the testers, and will be as consistent as possible between all the RIIDs supplied. Additional items such as the case, spare batteries, and tripod (if one is supplied) will not be included in this test.

The following table is used to assign the score.

Score	Weight
3	If the RIID weighs 2.0kg or less
2	If the RIID weighs between 2.0 and 2.5kg
1	If the RIID weighs 2.5 kg to 3.0kg
0	If the RIID weighs more than 3.0kg

6.1.2 Battery Life

The battery life will be judged based on Bidder supplied data. The calculation or test results claimed for battery life are to be presented for the RIID under normal operating conditions (i.e. the mode used for searching for radio-isotopes, with maximum screen illumination, no alarming and all other setting in default). New batteries with a full charge should be used. Canada reserves the right to test this, by setting the RIID and allowing the battery to run down.

Scores will be assigned as follows:

Score	Battery Life
2	If the RIID remains fully functional for 8 hours or longer
0	If the RIID remains fully functional less than 8 hours

6.1.3 Ingression Protection

The minimum IP rating for the RIIDs is IP54 (SOR Ref A9), points will be awarded for IP65 or better. The contractor must provide documentation to support this claim.

Scores will be assigned as follows:

Score	Ingress Protection
2	If the RIID is certified IP 65 or greater
0	If the RIID is certified IP 54

6.1.4 Communication

If the RIID being tested has a USB port, it will be attached to a Windows PC and a score will be awarded for a system that acts as an external hard drive – no Bidder software will be installed on the PC for this test.

Scores will be assigned as follows:

Score	Acts as External Hard Drive
1	If the computer recognizes and can transfer files from the RIID
0	If the computer does not recognizes the RIID, and is unable to transfer files

6.1.5 Power Adapter

Preference will be given to systems capable of being run from standard North American (120 VAC, 15A, 60Hz) grid power and European power (230VAC, 15A, 50Hz). A plug (socket) adapter is not required for this evaluation. Contractor certification is sufficient for this criterion.

Scores will be assigned as follows:

Score	Power Supply
1	If the RIID can function without batteries, plugged into North American or European wall power.
0	If the RIID can only function from battery power (or only one or the other of North American or European power)

6.1.6 Chargeable from a Vehicle Cigarette Lighter

Preference will be given to systems capable of being run from standard automotive "cigarette lighter" (12VDC) power. Contractor certification is sufficient for this criterion.

Scores will be assigned as follows:

Score	Vehicle Cigarette Lighter
1	If the RIID (or RIID battery charger) can run from a vehicle cigarette lighter
0	If the RIID cannot

6.1.7 Colour Used on Display to Differentiate Class of Material

Preference will be given to RIIDS that differentiate isotopes from the different libraries (SNM, NORM, IND, and MED at a minimum) by displaying them in different colours. Differentiating in this manner on the spectrum itself, or on the "results screen" (a screen that presents the results of a spectroscopic identification) are both acceptable.

Scores will be assigned as follows:

Score	Colour Differentiation
3	If the RIID differentiated with colour
0	If the RIID does not

6.2 Test Matrices

The following tables are used to summarize the scores for the General Evaluation Criteria.

Basic RIID - Phase III Scoring						
Ref No.	Evaluation Criterion (General)	Type of Evaluation			Score	Possible Score
		I	T	CC (A/C or D)		
A2	Weight	√				3
A6	Battery life			A/C		2
A9	Ingress Protection			D		2
N/A	Mounts as external USB hard drive		√			1
N/A	Power Supply			D		1
N/A	Chargeable from a vehicle cigarette lighter			D		1
N/A	Colour display used to differentiate class of material	√				3
General Criteria Score						/13

High Resolution RIID - Phase III Scoring						
Ref No.	Evaluation Criterion (General)	Type of Evaluation			Score	Possible Score
		I	T	CC (A/C or D)		
A2	Weight	√				3
A6	Battery life			A/C		2
A9	Ingress Protection			D		2
N/A	Mounts as external USB hard drive		√			1
N/A	Power Supply			D		1
N/A	Chargeable from a vehicle cigarette lighter			D		1
N/A	Colour display used to differentiate class of material	√				3
General Criteria Score						/13

7. Technical Merit Scoring

The Technical Merit Score is simply the sum of the Phase II and Phase III scores for both RIID variants. The following table summarizes.

Technical Merit Score	
Functional Criteria Testing (Phase II)	
Basic RIID	/22
High Resolution RIID	/22
General Criteria Evaluation (Phase III)	
Basic RIID	/13
High Resolution RIID	/13
Total Technical Merit Score	/ 70

ANNEX "D" to PART 5 OF THE BID SOLICITATION

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 any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit [Employment and Social Development Canada \(ESDC\) – 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 permanent full-time and/or permanent part-time employees.

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 ESDC-Labour.
- OR**
- A5.2. The Bidder certifies having submitted the [Agreement to Implement Employment Equity \(LAB1168\)](#) to ESDC-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 ESDC-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)