Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

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

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

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

Title - Sujet Radiation Portatl Monitor	
Solicitation No. - N° de l'invitation 47064-130497/A	**Amendment No. - N° modif.** 004
Client Reference No. - N° de référence du client 1000310497	**Date** 2013-03-22
GETS Reference No. - N° de référence de SEAG PW-$$PV-924-62109	
File No. - N° de dossier pv924.47064-130497	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-04-12	**Time Zone** **Fuseau horaire** Eastern Standard Time EST
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☑ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Caron, Anne	**Buyer Id - Id de l'acheteur** pv924
Telephone No. - N° de téléphone (819) 956-3874 ( )	**FAX No. - N° de FAX** (819) 956-3814
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:**	

Instructions: See Herein

Instructions: Voir aux présentes

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

Canada

Modification de l'invitation no. 4

Le modificatif a pour but d'afficher des questions reçues et les réponses à ceux-ci et de modifier les Annexes A, B et D de l'invitation:

QUESTIONS ET RÉPONSES:

Question 1: A6: Mechanical Fasteners:

a) Please can you explain a configuration that would meet your mandatory configuration requirements?

b) Please can you confirm if an underground conduit will be available to interconnect the radiation sensor panels using this loom?

c) Please note we are also able to supply an overhead, supported conduit if this were more suitable. Please advise if this is a more suitable option in this location?

Réponse 1:

a) A configuration of 2 panels with mounting apparatus setup to mimic the bottom 2 panels of a 4 panel radiation portal monitor would be acceptable.

b) An underground conduit to connect opposing sides of the portal configuration will not be available at the time of portal setup.

c)Although not mandatory, the supply of an overhead conduit would be appreciated. If not supplied, CBSA will build its own.

Question 2: Radiation Sources: ANSI N42.35

a) Please provide information on the acceptable sources?

b) Please can we have written permission to use our Co-57 button sources bare as the combined exposure from our calibrated, traceable source is ~65% of the exposure value in ANSI 42.35 table 4 without additional shielding? Please can we have written permission to use our other button sources bare if the exposure from our calibrated, traceable sources in that material is <80% of the exposure value in ANSI 42.35 table 4 without additional shielding?

c) Can we have written permission to use the described fertilizer as the bulk, palletized NORM material?

Regarding the NORM Classification and Identification, by the following test:

Passing a container laden with 1 standard pallet of K-40 NORM stacked 5' high through the portal at a speed of 8 km/h, a total of 10 times.

The K-40 NORM available to us is 2.5 tons of fertilizer (K-40) on pallets in bags which would be put in line in the container.

d) Can we have written permission to use a configuration of bags of fertilizer on pallets along the centre-line of the container, as the bulk, palletized NORM material?

e) Please can you provide written permission for us to use a bulk Th-232 source of other than clay tiles if we are able to procure one prior to submission of our proposal?

f) Please can you provide written permission for us to use a Th-232 point source to simulate a bulk source to demonstrate NORM Classification (B2) and Identification (B5) if a bulk Th-232 source cannot be located?

Réponse 2:

a) As per Annex B - the point sources to be tested (not including NORMs) are: 241Am, 57Co, 133Ba, 137Cs, 60Co. CBSA will permit testing of these sources having actual activities (as measurable on the date of test) ranging from: -50% to +20% of the ANSI 42.46 nominal activities.

b) The results of the testing outlined in DID003 will be normalized for the source activities. CBSA will allow sources of different configurations (e.g., not having steel encapsulation) so long as the exposure rate is within the specified range.

Note: All vendors are asked to submit copies of the source activity certification including serial numbers and original manufacturing dates). If secondary holder is employed, a detailed design of the holder, along with relative dose measurements (with and without holder) for each source are requested.

c) CBSA will allow Symmetrica's proposal to use of fertilizer in place of the kitty litter for the K40 NORM.

d) CBSA will allow Symmetrica to use an-in line configuration of bags on pallets as described. However, to normalize the fertilizer to the kitty litter, CBSA will impose a 2 ton limit of material for the K40 configuration.

e) CBSA will consider the use of another bulk material, but requests that clay or ceramic materials be sourced wherever possible. If it is not possible to acquire the materials, vendors should submit a proposed configuration (materials, weight, setup) for approval.

CBSA suggests the following materials, all of which can be sourced at home improvement stores such as Home Depot or Home Base:

Glazed floor tiles

Ceramic kitchen plates

Clay flower pots

f) CBSA will grant an extension on the RFP closing to enable vendors more time to acquire the necessary bulk materials for testing.

Question 3: Requirement A11 (Manual Calibration) and the definition of the information required in DID 002 -Detector Calibration and Sensitivity Testing. Is it acceptable if the calibration of the system offered can be verified manually with defined test sources and the manual verification method is provided in DID 002?

Réponse 3: Confirmed.

Question 4: Requirement A13 (Manual Sensitivity Testing): We have assumed that the offered components must provide CBSA a means to manually verify the sensitivity using the method described in DID:003 Radiation Detection Performance - Please can you confirm that our interpretation of this requirement is correct?

Réponse 4: Confirmed.

Question 5: Requirement A15: We propose to demonstrate compliance to this requirement through demonstrating compliance with ANSI 42.35-2006 Section 6.3 for 1000 occupancies and a limited number of empty container transits (~50). - Please can you confirm that demonstrating compliance with ANSI 42.35-2006 Section 6.3 for 1000 occupancies and a limited number of empty container transits (~50) will be acceptable?

Réponse 5: Regarding Requirement A15 - This is unclear. If the vendor proposes to demonstrate compliance by scanning a conveyance which generates an alarm, then after changing parameters, repeating the scan and it does not alarm (or vice versa) - this would be acceptable. It must be noted what parameters were changed in the submission.

Question 6: The overall system sensitivity is normally assessed by recording the output signal (or detected count rate) measured from exposure to a known source, and comparing this over time. The system provided will compensate for loss of component performance, however, we are endeavouring to define a test that demonstrates the capability of the system to the accuracy specified. When we have a defined test, we will request confirmation that this test will be satisfactory.

Réponse 6:CBSA will evaluate any and all sensitivity test methods proposed by vendors..

Question 7:B6 Indication on page 13 of 47064-130497/A reads “# of “NORM-Identifications”/10 * 3”

I believe it should read “# of “Identifications”/10 * 3” as indicated in the response to Q2 of the QA.

Réponse 7: Correction have been made.

Question 8:DID-003, C. ANSI Test Results : “The Bidder must provide test results from: - ANSI 42.35 Section 6: Radiological Tests”. - As Neutron detectors are not part of this RFQ, we assume that test results related to Neutron radiation (i.e. 6.5 Detector response to neutron radiation and 6.7 Neutron indication in the presence of photons) are exempt?

Réponse 8: Correct.

Question 9: Mandatory Specifications, items A-11 “manual Calibration” and A-12 “Auto Calibration”. - Could CBSA indicate which quantities are to be manually or automatically calibrated? The latter I assume are only related to STABILISATION but like to be sure…

Réponse 9: Calibration is to be of any front-end electronics (e.g., PMTs) necessary to ensure the detector’s energy response is correct. Manual refers to conducting/confirming this response by a CBSA technician using a check source; Auto-Calibration is the equivalent process done autonomously by the system.

Question 10: Re instructions in the document DID-003 (Radiation Detection Performance), we have test data using the NORM materials listed in the table below.

	KCl in 15 bags	
Thorium NORM	Mixed Radium and Thorium NORM Thorium pad (800 kg)	

Given the poor winter-time weather conditions at this time, we intend to demonstrate technical capabilities by using results from previously run tests using the above mentioned NORM materials.

Réponse 10:

KCl configuration would be acceptable.

Please provide more detailed information regarding the form of the Radium/Thorium configuration, and the previous test methods.

CBSA will review the vendor’s test method to determine whether it constitutes a comparable measurement. CBSA requests that any vendor, who is incapable of performing the required testing prior to bid closing, provide (immediately) written notice of the earliest time such testing could be completed along with a detailed explanation of the reason for this limitation.

Question 11:RFP – General – Required Interfacing. – Please provide an ICD for any system or network that the vendors will be required to interface with.

Réponse 11: The vendors are not required to interface with any CBSA equipment for the procurement of these test systems.

Question 12: RFP- Part 4, Item 2.1 is unclear on the evaluation of Annex B. Please clarify how the point score for Annex B will be factored into the overall technical score.

Réponse 12: PART 4 **-** 2.1 Highest Combined Rating of Technical Merit and Price

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 (100 points) multiplied by the ratio of 75 %. Total points of Annex B **-** POINT RATED TECHNICAL CRITERIA MATRIX is 100 points.

Question 13: RFP - Part 4 - As part of the bid evaluation process, does CBSA plan to test the proposed system at the bidder's test site?

Réponse 13: No, the bids will be evaluated on the data and reports provided with bids.

Question 14: RFP, Part 4 - If the CBSA plans to test the proposed system as part of the bid evaluation process, when will this testing occur? How much notice will a bidder have to prepare for the testing? Will the delivery schedule be adjusted, if necessary, to account for the scheduling and conduct of this testing?

Réponse 14: See response to question 13.

Question 15: RFP-Part 6, Item 2 -states that there is a requirement for 2 ARPMs. Please confirm the intent to award two separate contracts to the two bidders "with the highest combined rating of technical merit and price." Does CBSA envision any circumstance in which only one award will result?

Réponse 15: Two contracts will be awarded as detailed in Part 4 and Part 6 - The two (2) responsive bids with the highest combined rating of technical merit and price will each be recommended for award of a contract for one (1) system.

If only one bid is fully compliant to all mandatory specifications, only one contract will be awarded.

Question 16: RFP- Annex A, A19- Geometric Response (Vertical) – Are these static dynamic measurements? ANSI N42.35 Section 6.4.2 specifies dynamic test "at the required test speed," which is not defined in A19

Réponse 16: CBSA intended these are to be static tests, as per section A. Sensitivity Testing procedure.

Question 17: RFP- Annex A, A22 – Source Location - "The offered components must compute the linear position (as % of object length) where the maximum radiation was detected." Please define the "object". To compute the linear position as a fraction of the object length, the object length must be measured. Please specify requirements for such measurements.

Réponse 17:

As required in:

Clause A 22 - The offered components must compute the speed of the scanned object.

and

Clause A23 - The offered components must include sensors to determine the presence of vehicles or trucks occupying the portal.

Thus with object speed and time occupying the portal, the object length can be determined.

Question 18: RFP- Annex A, A23- Speed - Please supply specifications for the speed measurement to assure that all participants are being tested against the same requirement.

Réponse 18:A vehicle will be driven through the portal at a known speed; the portal must calculate and include this speed with the scan information.

Question 19: RFP- Annex A,A25- IEEE Standard - Only Section 6 of ANSI N42.35 is specified in DID003. Please confirm that this is the only section of ANSI N42.35 that must be met. If not, please define the “applicable requirements” of ANSI N42.35 that must be met.

Réponse 19: Only ANSI section 6 test results will be assessed during the selection of a successful bidder. However, it is expected that unless contravened by a specific clause within this RFP, the portal can be configured to meet all ANSI 42.35 requirements.

Question 20:RFP, Annex A, Item A27 - We ask for the mandatory delivery date to be defined as number of days ARO rather than a fixed date.

Réponse 20: Date is a required date, delivery date will be inserted at time of contract award based on dated supplied by bidder

Question 21: RFP- Annex B General - How will the “presence and the performance of options” be “considered in evaluating the technical capabilities of the system?” How will options be accounted for in the scoring?

Réponse 21: All options are accounted for in Annex B - POINT RATED TECHNICAL CRITERIA MATRIX

Question 22: RFP- DID 003-Radiation Detection Performance- The test set-up is not defined although there are references in B. Source Classification and Identification to “portal,” “pallets,” “container,” “stand” and “rail.” Please supply more details regarding the test set-up and method to assure consistency of testing among bidders.

Réponse 22: Pallets are standard wooden shipping pallets. Containers are to be standard marine containers (20’ or 40’), mounted on a common truck-drawn conveyance. Please refine question to specify which aspects are not clear.

Question 23: RFP-DID 003- Radiation Detection Performance- In order to assure a fair and objective evaluation, we assume that there should be a test method in DID003 for every requirement in the tender that references DID003. Please define the test for compliance with Requirement A15, which is not specified in DID003.

Réponse 23: Clause A15 is a mandatory requirement, and is assessed only as either comply/not-comply. As part of the technical bid, potential Bidders must certify that the proposed system satisfies the requirement and successful vendors must provide details to that effect in the Detector Calibration and Sensitivity Testing Full Report – detailed in DID003 Section D.

Question 24: RFP-DID 003- Radiation Detection Performance- In order to assure a fair and objective evaluation, we assume that there should be a test method in DID003 for every requirement in the tender that references DID003. Please define the test method for compliance with Requirement A18, which is not specified in DID003.

Réponse 24: See amendment below.

Question 25: RFP-DID 003- Radiation Detection Performance- Requirement A19 specifies testing over the vertical range 0.2-2m but Sensitivity Testing in DID003 specifies testing at the “mid-height of detector.” Please clarify this apparent disagreement.

Réponse 25: See Answer 24.

Question 26: RFP-DID 003- Radiation Detection Performance- In order to assure a fair and objective evaluation, we assume that there should be a test method in DID003 for every requirement in the tender that references DID003. Please define the test method for compliance with Requirement B6, which is not specified in DID003.

Réponse 26: See DID 003 – Section B Source Classification and Identification.

Question 27: RFP-DID 003- Radiation Detection Performance- In order to assure a fair and objective evaluation, we assume that there should be a test method in DID003 for every requirement in the tender that references DID003. – Please define the test method for compliance with Requirement B7, which is not specified in DID003.

Réponse 27: See DID 003 – Section B Source Classification and Identification.

Question 28: RFP-DID 003- Radiation Detection Performance- For "Source Classification and Identification, NORM Classification and Identification, “what is the required height of the pallet?

Answer 28: All pallets are to be centered in a standard marine shipping container, on a truck-drawn conveyance.

Question 29: RFP-DID 003- Radiation Detection Performance- For "Source Classification and Identification, Source (unmasked) Classification and Identification," what is the required height and distance from the detector?

Réponse 29: The container, loaded on a standard truck-drawn conveyance and including sources and NORM materials centered inside, is to pass through the centre of a portal monitor having a width 5 m. Container heights as defined in DID 003.

Question 30: RFP-DID 003- Radiation Detection Performance- For "Source Classification and Identification, Source (masked) Classification and Identification," what are the required height and distance from the detector?

Réponse 30: The container, loaded on a standard truck-drawn conveyance and rincluding sources and NORM materials centered inside, is to pass through the centre of a portal monitor having a width 5 m. Container heights as defined in DID 003.

Question 31: RFP-DID 003- Radiation Detection Performance- Section C of DID 003 specifies “test results from ANSI N42.35 Section 6: Radiological Tests.” However, all these ANSI N42.35 tests, including Sections 6.5, 6.6, 6.7 and 6.8, measure features that are not specified in the tender. Are these tests required? If so, how will they be accounted for in the bid evaluation?

Réponse 31:

The following subsections are requested to support performance claims relating to clauses:

A14 (ANSI 42.35 – Section 6.6)

A14 (ANSI 42.35 – Section 6.8)

As the neutron detection module will be supplied by CBSA, ANSI 42.35 – Test results from subsection 6.5 and 6.7 need not be submitted with the technical bid.

Question 32: RFP-DID 003- Radiation Detection Performance- The description states "provide CBSA with detector performance information for technical evaluation of the systems." Please clarify what is measured and evaluated, each detector or the overall system?

Réponse 32:

For the sensitivity related tests, each detector is assessed individually.

For the Classification and Identification Testing, the overall alarm or indication is used as a basis for assessment.

Question 33: RFP-DID 003- Radiation Detection Performance- The Instructions state "NORM materials should be kitty litter (K-40 NORM) and clay tiles (Th-232 NORM)." Please specify if there are requirements regarding percent of each NORM, i.e. if both are used on a single pallet, what is the required mix, if there is a required mix?

Réponse 33: They are to be tested individually, in accordance with the defined test procedure. No percent NORM is provided, however, CBSA will impose a 2 ton limit of material for the K40 configuration.

As per prior response -

CBSA will consider the use of another bulk material, but requests that clay or ceramic materials be sourced wherever possible. If it is not possible to acquire the materials, vendors should submit a proposed configuration (materials, weight, setup) for approval.

CBSA suggests the following materials, all of which can be sourced at home improvement stores such as Home Depot or Home Base:

Glazed floor tiles

Ceramic kitchen plates

Clay flower pots

Question 34: RFP-Annex B – B1Gross Counting Sensitivity- The specified scoring favors larger area detectors, which may not be the optimal solution based on performance in the real world, value or effective lifespan. Therefore, we recommend that either 1) the points be reduced or 2) the criteria be redefined to reflect the statistical significance in a standard background field, such as the signal to background ratio.

Réponse 34: The allocation of points has been established to reflect CBSA's needs for radiation detection in the marine port environment. Statistical significance was considered in defining the number of measurements and measurement time of both the background and source. All vendors are reminded that raw data (including measurements from all time increments) must be supplied with the technical bid.

Question 35: RFP-Annex B-B7-In a practical inspection operation, it is desirable for the radiation monitor to ignore NORM to reduce the number of false alarms. Please explain the need to "identify the NORM" in this test. We feel that this might limit fair competition. We propose changing the requirement to "identify the source when each of the following sources is in the presence of masking by NORM." If this change is not approved, we request that the point allocation for B7 be reduced to reflect its lower importance in a practical inspection operation and to support fair competition.

Réponse 35: The requirements for NORM classification and identification have been established to reflect CBSA's operational needs for radiation detection in the marine port environment, including adjudication of alarms caused by NORM materials alone. As such, CBSA will not change the point allocation as proposed.

Question 36: RFP- Amendment1 – Question 14 – Neutron Detector - The answer states "attached you will find the spec sheet for the Neutron detector." However, the Amendment we received had no attachment. Please provide instructions on how/where to download attachments.

Réponse 36: See attached.

Question 37: RFP, Appendix 1 - describing the CBSA Test Portal, states "CBSA's test RPM is comprised of 4 Radiation Sensor Panels (RSPs) secured in large steel shrouds." Please clarify if there is a door and, if yes, what material is it is made of?

Réponse 37: Yes, there are removable doors (thin poly-carbonate). However, initial testing of the procured systems will be in a stand-alone configuration (not in CBSA's shrouds), and vendors should submit configurations and test results reflective of this.

Question 38: Due to the complexity of the additional questions, we are formally requesting a two week extension on the closing date of this RFP along with a corresponding extension on the delivery date.

Réponse 38: An extension has been granted. Closing is April 12, 2013.

Question 39:RFP, Annex A, A7 – states that no shroud is required for this tender. Please clarify what is meant by the word "shroud." Figure 3 in Appendix 1, CBSA Test Portal Information Package, shows boxes and refers to shrouds. If these boxes are shrouds, can we replace the existing PVT detector with ours and use the existing shroud/enclosure? Also can we use the existing electronic boxes on the side to house our electronics?

Réponse 39:

The shroud is the steel shell holding the radiation detection panels, and periphery equipment.

As per RFP "Section 2 - Requirement"

It must be possible to configure and to fit the proposed radiation detection equipment within the existing physical and communications structures of CBSA's test Radiation Portal Monitor (RPM). See Appendix 1 - CBSA Test Portal Information Package for information related to the existing RPM

As per clause A6, the offered radiation detection portals must be stand-alone (i.e., independent of the existing shrouds) which would include electrical boxes.

Supprimer:

ANNEXE "A" – SPÉCIFICATIONS OBLIGATOIRES

1.0 Besoins

1.1 Exigences relatives au matériel

Item	Exigence	Description	Référence *(à compléter par le soumissionnaire)*
A5	Cables et connecteurs	Les composants du système proposé doivent inclure l'électronique nécessaire pour: acheminer le courrant et communiquer avec les modules du détecteur.	

ANNEXE "B" – CRITÈRES TECHNIQUES COTÉS PAR POINTS

2. GRILLE D'ÉVALUATION DES CRITÈRES TECHNIQUES COTÉS PAR POINTS:

La présence et les options de performance, ainsi que les exigences obligatoires, seront prises en considération lors de l'évaluation des capacités techniques du système.

L'attribution des points techniques des critères cotés est détaillée dans le tableau ci-dessous.

Exigences obligatoires cotées		Résultat du système *(à compléter par le soumissionnaire)*	Pts Min	Pts Max	Référence à la documentation de la proposition	Indication
B6 - Identification d'une source (non masquée)	Am-241		0	3	DED 003-Performance du détecteur de rayonnement	# of "Identifications MRN" /10 * 3
	Co-57		0	3		# of "Identifications MRN" /10 * 3
	Ba-133		0	3		# of "Identifications MRN" /10 * 3
	Cs-137		0	3		# of "Identifications MRN" /10 * 3
	Co-60		0	3		# of "Identifications MRN" /10 * 3

ANNEXE "D" – FEUILLES DE DESCRIPTIONS D'ÉLÉMENT DE DONNÉES (DED)

TITRE	**Performance des détecteurs de rayonnement**
NUMÉRO du DED	003
DESCRIPTION / BUT	Fournir des renseignements relatifs à la performance des détecteurs de rayonnement pour l'évaluation technique. Sert à vérifier la compatibilité du portail avec les exigences techniques et les exigences d'affaires.
DATE DE SOUMISSION	Le Rapport Finale doit être présenté au même moment que la soumission technique.
INSTRUCTIONS - <u>Format</u>	Le soumissionnaire doit fournir un Rapport de configuration à l'ASFC. Ce rapport doit être formaté comme suit : -Page titre (avec n° de DED, titre, auteur, date) -Table des matières -Numéros de page -Numéros de figure et de tableau Les copies en papier doit être fourni avec le soumission technique, et rapport devrait être accompagniez avec un copie électronique et quérable.
INSTRUCTIONS- <u>Contenu</u>	Les renseignements suivants doivent être fournis dans le Rapport de Performance des détecteurs de rayonnement. Le rapport doit contenir, au minimum, les données suivantes et doit comporter les sections suivantes: Note: a moins d'avis contraire, les sources utilisées doivent être celles spécifiées dans cette demande de soumission. Les sources doivent être conforme à ANSI 42.35 (2006) – Tableau 4. Toute palette doit être centrée dans le conteneur. Les matériaux MRN doivent être de la litière pour chat (K-40 MRN) et des tuiles en argile (Th-232 MRN). Si ces matériaux ne sont pas disponible, des matériaux similaires pourront être utilisés mais seulement avec l'approbation écrite de l'ASFC. Les mêmes matériaux RMN ainsi que les configurations doivent être utilisés pour le RMN et la classification des sources masquées RMN (section B). **A. Essais de sensibilité** Le soumissionnaire doit fournir un rapport contenant les informations suivantes (doit inclure les données brutes): -comptage brut de la sensibilité: $Sensitivity = \frac{Source\ [cps] - Bkg\ [cps]}{Activity\ [\mu Ci]}$ La *Source* est la moyenne de 3 lectures prise des intervalles de 30 seconde avec un isotope non-masqué placé à la mi-hauteur du détecteur (à une distance de 2.5 m de la face du détecteur). Le, Bkg est la moyenne de bruit de fond pour 5 lectures prise des intervalles de 30 seconde. **B. Réponse spectroscopique du détecteur gamma** Le soumissionnaire doit fournir les informations suivantes (incluant les données brutes et les résultats de classification) pour: -Classification et identification de MRN en effectuant l'essai suivant::

	1)En passant un conteneur standard (contenant une palette de litière pour chat empilées à une hauteur de 5') 10 fois dans le portique à une vitesse de 8 km/h. 2)En passant un conteneur standard (contenant une palette de tuiles en argile empilées à une hauteur de 5') 10 fois dans le portique à une vitesse de 8 km/h. -Source (non-masquée) Classification et identification, en effectuant l'essai suivant: 1)En passant une source non-masquée (sur un trépied ou une rail) 10 fois dans le portique à une vitesse de 8 km/h. L'essai doit être répétés pour toutes les sources du besoin. -Source (masquée) Classification et identification, en effectuant l'essai suivant: 1)En passant un conteneur standard (contenant une source radioactive et une palette de tuiles en argile empilées à une hauteur de 4') 10 fois dans le portique à une vitesse de 8 km/h. L'essai doit être répétés pour toutes les sources du besoin. **C. Rapport d'essais ANSI** Le soumissionnaire doit présenter les résultats d'analyse de: -ANSI 42.35 Section 6: Radiological Tests **D. Essai automatique de sensibilité** Le soumissionnaire doit présenter en détail les informations sur: -Méthode utilisé pour l'essai automatique de sensibilité -Résultats d'analyse pour l'essai automatique de sensibilité (efficacité intrinsèque) **E. Renseignements supplémentaires** Le soumissionnaire peut soumettre les autres renseignements techniques qu'il juge pertinents à cette DED, notamment mais non exclusivement : résultats de test, rapports de tierces parties, options de configuration ou autres données brutes. Notez que tous les renseignements demandés spécifiquement dans les sections précédentes doivent être présentées au complet dans les présentes. Cette section doit être formatée de la même manière que le reste de la DED et doit être donné correctement en référence dans la Table des matières. Les références devront d'être spécifiques aux documents techniques (ex. le titre du document, la page et le numéro de paragraphe).
LIVRABLES (Cédule)	Le Rapport Finale doit être présenté au même moment que la soumission technique.

Remplacer avec:

ANNEXE "A" – SPÉCIFICATIONS OBLIGATOIRES

1.0 Besoins

1.1 Exigences relatives au matériel

Item	**Exigence**	**Description**	**Référence** *(à compléter par le soumissionnaire)*
A5	Cables et connecteurs	Les composants du système proposé doivent inclure l'électronique nécessaire pour: acheminer le courrant et communiquer avec les modules du détecteur **)une distance allant jusqu'à 50m)**.	

ANNEXE "B" – CRITÈRES TECHNIQUES COTÉS PAR POINTS

2. GRILLE D'ÉVALUATION DES CRITÈRES TECHNIQUES COTÉS PAR POINTS:

La présence et les options de performance, ainsi que les exigences obligatoires, seront prises en considération lors de l'évaluation des capacités techniques du système.

L'attribution des points techniques des critères cotés est détaillée dans le tableau ci-dessous.

Exigences obligatoires cotées		**Résultat du système** *(à compléter par le soumissionnaire)*	**Pts Min**	**Pts Max**	**Référence à la documentation de la proposition**	**Indication**
B6 -Source Identification (unmasked)	Am-241		0	3	DID 003- Radiation Detector Performance	# of "Identifications" /10 * 3
	Co-57		0	3		# of "Identifications" /10 * 3
	Ba-133		0	3		# of "Identifications" /10 * 3
	Cs-137		0	3		# of "Identifications" /10 * 3
	Co-60		0	3		# of "Identifications" /10 * 3

ANNEX "D" – DATA ITEM DESCRIPTION SHEETS (DID)

TITRE	**Performance des détecteurs de rayonnement**
NUMÉRO du DED	003
DESCRIPTION / BUT	Fournir des renseignements relatifs à la performance des détecteurs de rayonnement pour l'évaluation technique. Sert à vérifier la compatibilité du portail avec les exigences techniques et les exigences d'affaires.
DATE DE SOUMISSION	Le Rapport Finale doit être présenté au même moment que la soumission technique.
INSTRUCTIONS - <u>Format</u>	Le soumissionnaire doit fournir un Rapport de configuration à l'ASFC. Ce rapport doit être formaté comme suit : -Page titre (avec n° de DED, titre, auteur, date) -Table des matières -Numéros de page -Numéros de figure et de tableau Les copies en papier doit être fourni avec le soumission technique, et rapport devrait être accompagniez avec un copie électronique et quérable.
INSTRUCTIONS- <u>Contenu</u>	Les renseignements suivants doivent être fournis dans le Rapport de Performance des détecteurs de rayonnement. Le rapport doit contenir, au minimum, les données suivantes et doit comporter les sections suivantes: Note: a moins d'avis contraire, les sources utilisées doivent être celles spécifiées dans cette demande de soumission. Les sources doivent être conforme à ANSI 42.35 (2006) – Tableau 4. Toute palette doit être centrée dans le conteneur. Les matériaux MRN doivent être de la litière pour chat (K-40 MRN) et des tuiles en argile (Th-232 MRN). Si ces matériaux ne sont pas disponible, des matériaux similaires (one K-40 emitter and one Th-232emitter) pourront être utilisés mais seulement avec l'approbation écrite de l'ASFC. Les mêmes matériaux RMN ainsi que les configurations doivent être utilisés pour le RMN et la classification des sources masquées RMN (section B). **A. Essais de sensibilité** Le soumissionnaire doit fournir un rapport contenant les informations suivantes (doit inclure les données brutes): -comptage brut de la sensibilité: $Sensitivity = \frac{Source\ [cps] - Bkg\ [cps]}{Activity\ [\mu Ci]}$ La *Source* est la moyenne de 3 lectures prise des intervalles de 30 seconde avec un isotope non-masqué placé à la mi-hauteur du détecteur (à une distance de 2.5 m de la face du détecteur). Le, Bkg est la moyenne de bruit de fond pour 5 lectures prise des intervalles de 30 seconde. Sensitivity should again be determined using the Cs-137 source, placed at 0.2 m and 2.0 m. **B. Réponse spectroscopique du détecteur gamma**

	Le soumissionnaire doit fournir les informations suivantes (incluant les données brutes et les résultats de classification) pour: -Classification et identification de MRN en effectuant l'essai suivant:: 1)En passant un conteneur standard (contenant une palette de litière pour chat empilées à une hauteur de 5') 10 fois dans le portique à une vitesse de 8 km/h. 2)En passant un conteneur standard (contenant une palette de tuiles en argile empilées à une hauteur de 5') 10 fois dans le portique à une vitesse de 8 km/h. -Source (non-masquée) Classification et identification, en effectuant l'essai suivant: 1)En passant une source non-masquée (sur un trépied ou une rail) 10 fois dans le portique à une vitesse de 8 km/h. L'essai doit être répétés pour toutes les sources du besoin. -Source (masquée) Classification et identification, en effectuant l'essai suivant: 1)En passant un conteneur standard (contenant une source radioactive et une palette de tuiles en argile empilées à une hauteur de 4') 10 fois dans le portique à une vitesse de 8 km/h. L'essai doit être répétés pour toutes les sources du besoin. **C. Rapport d'essais ANSI** Le soumissionnaire doit présenter les résultats d'analyse de: -ANSI 42.35 Section 6: Radiological Tests **D. Essai automatique de sensibilité** Le soumissionnaire doit présenter en détail les informations sur: -Méthode utilisé pour l'essai automatique de sensibilité -Résultats d'analyse pour l'essai automatique de sensibilité (efficacité intrinsèque) **E. Renseignements supplémentaires** Le soumissionnaire peut soumettre les autres renseignements techniques qu'il juge pertinents à cette DED, notamment mais non exclusivement : résultats de test, rapports de tierces parties, options de configuration ou autres données brutes. Notez que tous les renseignements demandés spécifiquement dans les sections précédentes doivent être présentées au complet dans les présentes. Cette section doit être formatée de la même manière que le reste de la DED et doit être donné correctement en référence dans la Table des matières. Les références devront d'être spécifiques aux documents techniques (ex. le titre du document, la page et le numéro de paragraphe).
LIVRABLES (Cédule)	Le Rapport Finale doit être présenté au même moment que la soumission technique.

Les autres clauses et conditions ne changent pas

Founded 1964

LND, INC.

Designers & Manufacturers of Nuclear Radiation Detectors

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253109 Cylindrical He3 Neutron Detector

GENERAL SPECIFICATIONS

Gas pressure (torr)	2280
Cathode material	Stainless Steel
Maximum length (inch/mm)	75.23/1910.8
Effective length (inch/mm)	72.0/1828.8
Maximum diameter (inch/mm)	2.0/50.8
Effective diameter (inch/mm)	1.96/49.78
Connector	HN
Effective volume (cm³)	3558
Operating temperature range °C	-50 to +100

ELECTRICAL SPECIFICATIONS

Recommended operating voltage (volts)	1000
Operating voltage range (volts)	900 - 1150
Maximum plateau slope (% / 100 volts)	3
Maximum resolution (% fwhm)	6
Tube capacitance (pf)	8.5
Weight (grams)	1359

THERMAL NEUTRON SENSITIVITY

Sensitivity (cps / nv)	695.0