ANNEX D

BID EVALUATION PLAN

For The

RADIATION DETECTION SYSTEM(S) PROJECT
(RDS)

NOTICE

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AVIS

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RADIATION DETECTION SYSTEM TECHNICAL EVALUATION PLAN

1. GENERAL

1.1 Basis of Selection

1.1.1 The selection of the RDS system will be based on a combination of both technical merit and price.

1.1.2 The scoring of the RDS system shall be accomplished through a two phase process. These phases are: the Key Parameter Review, and the Functional Evaluation.

1.1.3 Phase I – the Key Parameter Review – consists of every proposed system being evaluated against a sub-set of the mandatory requirements presented in the SOW (ANNEX A); the Key Parameters. This ANNEX details these Key Parameters for which the Bidder is responsible for providing substantiating evidence of compliance.

1.1.4 Substantiating evidence for Phase I may consist of technical drawings, and third party data; other evidence may be accepted at the discretion of the reviewing body.

1.1.5 All systems that successfully demonstrate conformance to the Key Parameter Review will be eligible to participate in Phase II.

1.1.6 In order to participate in Phase II, a contract will be put in place to procure a limited number of systems (base unit, and/or probes, telescoping handle, cases, and all equipment required to operate the system as specified).

- The exact number of base units and probes will be determined at the time the contract is issued. However, it is not envisioned to have more than 5 of any one item.

1.1.7 Systems delivered for Phase II are not required to be in the final form that will be required at the conclusion of the procurement. Base Unit, Probes, carrying pouch, and telescoping handle must fit and function as claimed, however documentation, kitting, and colour will not be evaluated during this phase.

1.1.8 Phase II, the Functional Evaluation will consist of physical examinations and testing of all proposed systems that successfully completed Phase I. Examination and testing will be performed to confirm that claims made in Phase I are accurate and reproducible, it will also provide scores for several key performance characteristics.

1.1.9 Phase II, Functional Evaluation, is designed to subject the systems to laboratory and operational conditions and elicit user feedback to confirm the usability in such environments. This review will be performed by representatives of DND. All systems evaluated in Phase II will be assigned a total “technical Merit” score based on individual scores and weighting factors assigned to reflect the relative importance of the various criteria. Additionally, any system found to not comply with any Mandatory Requirement as detailed in the SOW (Annex A) may be summarily rejected from further consideration.

1.1.10 The results of Phase II will be sent to PSPC who will perform the selection based on the highest responsive combined rating of the Criteria Evaluation score and price. The ratio will be 60% for the technical merit and 40% for the price.

- To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 40%.
- For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.

1.1.11 Neither the responsive bid obtaining the highest technical merit 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 including optional quantities and all contractual support (training, Technical Data Package, *et cetera*) will be recommended for award of a contract.

2. PHASE I – KEY PARAMETER REQUIREMENTS

2.1 Procedure

2.1.1 Phase I may be thought of as a “paper review”.

2.1.2 Demonstrating each requirement found in Annex A individually would be onerous and prone to introducing error. Therefore, for Phase I, only specific key performance requirements will be evaluated in order to determine whether a system will proceeds to Phase II: Functional Evaluation.

2.1.3 In order for the RDS Evaluation Team to be able to adequately assess the conformance of the proposed systems, several specific documents are required. In addition, the bidder may submit any other supporting documents they feel the Evaluation Team would benefit from.

2.1.4 The Key Performance parameters that will be assessed during Phase I are limited to:

SOW Reference	Key Parameter
A1.1.1	System must currently be employed by a NATO military.
A2.1.1	Physically mountable in CAF vehicles. (Vehicle-Mounted systems only) Must provide printable 3D files of all hardware proposed for inclusion in the vehicle (not including cabling and connectors) – preferred file formats are STL or OBJ/AMF.
A4.1.11 A5.1.11 A6.1.11 A7.1.12 A8.1.10	‘Hot Swappable’ (Interchangeability) of any probe with a like probe and the preservation of calibration data. This does not apply to Vehicle-Mounted systems even if that system employs a probe.
A2.2.7 A3.2.8 A4.2.7	Have a gamma dose rate accuracy of ±20% within 80% of the operational range (for gamma energies between 60 keV and 1.33 MeV).
A2.2.4 & B3.2.5	Detect, display, and record a dose rate between 50nSv/h and 100Sv/h.
A5.2.5	Be capable of an MDC of 120 Bq/cm^2 for C-14 at a static source-to-probe separation of 3 mm from a uniformly contaminated surface, within 30 seconds.
A5.2.7	Have a relative intrinsic error of no more than 30% for all beta reference isotopes in Table 3 of ANSI N42.17A, above 300keV.
A6.2.4	Detect alpha radiation between 3MeV 6MeV.
A6.2.5	Detect beta radiation between 150keV and 5MeV.
A6.2.8	Have a 4Π alpha efficiency of at least 10% for all alpha reference isotopes in Table 3 of ANSI N42.17A.
A6.2.9	Have a 4Π beta efficiency of at least 10% for all beta reference isotopes in Table 3 of ANSI N42.17A and at least 5% for C-14.
A6.2.12	Have an active detection area within 5% of 100cm^2.
A7.2.3	Have an energy sensitivity of at least 110 cpm/µrad of Cs-137, and not less than 10 cpm/ µrad across the energy range (50keV – 1.5MeV).

A8.2.3 A,B,C, & D	FIDLER Probe must possess the required detection 'windows'.
A9.2.2	Possess a neutron energy detection range encompassing thermal (0.03ev) to 10MeV.
A9.2.3	Minimum neutron sensitivity of at least 5 counts per minute at 1 µSv/hr.

2.1.5 Supporting Documentation is to be sent to:

Canadian Forces Support Unit Ottawa
360 Paul Benoit Driveway
CMTT building 346
Ottawa, On, K1V 2E6
Attention: WO Stephen Macdonald
Telephone: 819-939-9369

2.2 REQUIRED SUPPORT DOCUMENTATION

In addition to any proof of compliance the Bidder provides, the Evaluation Team requires the following Support Documentation:

2.2.1 A **User (Operator's) Manual** for all the systems/components being proposed.

- Unilingual English or French is acceptable at this stage of the process;
- One (1) paper copy;
- One (1) electronic copy (saved to a disc or memory stick); and
- The manual (or addendum to the manual) must clearly state any deviation between the proposed system and the system described within the manual.

2.2.2 Energy response curves for each proposed detector.

- Curves must encompass, at a minimum, the region of interest (the 80% of the operational range demonstrating conformance).

2.2.3 Dose rate response curves for each detector.

- At a minimum a response curve for caesium-137, and the isotope(s) used at the calibration points (if other than caesium-137).

2.2.4 An **Attestation of Compliance** stating that any customization/modification of the original equipment required to achieve the performance requirements and/or specifications in the SOW will be complete at the time of delivery. The Attestation shall be signed by a senior representative the Original Equipment Manufacturer (OEM) who is authorized to commit to the changes required. The Attestation of Compliance will detail the modifications and how they meet the performance requirements and/or specifications. Simply stating future compliance is insufficient.

2.2.5 If any of the documents are missing or fail to meet the requirements laid out herein, then the bid will be deemed to have failed.

3. PHASE II: POINT RATED TECHNICAL CRITERIA

3.1 PROCEDURE

3.1.1 Phase II may be thought of as a “physical review”, and consists of both a Functional Evaluation and an Operational Evaluation.

3.1.2 The Bidder Proposal(s) that meets the requirements in Phase I will be eligible to proceed to Phase II to establish technical and operational compliance, to the satisfaction of the reviewers.

3.1.3 PSPC will notify the Bidder of a successful completion of Phase I and Canada’s intent to perform Phase II evaluation.

3.1.4 PSPC shall initiate a contract for the procurement of the following systems for evaluation, dependant on whether the proposed system is intended as a Vehicle-Mounted system or a Hand-Held system or both:

Item	Description	Quantity
1a	Vehicle-Mounted Base Unit	4 Up to 5
1b	Hand-Held Base Unit	4 Up to 5
2	Gamma / Beta Probe + Cables/Connectors	5 Up to 7
3	Beta “Frisker” Probe + Cables/Connectors	5 Up to 7
4	Alpha / Beta Probe + Cables/Connectors	5 Up to 7
5	High Sensitivity Gamma Probe + Cables/Connectors	3 Up to 5
6	FIDLER Probe + Cable/Connectors	3 Up to 5
7	Neutron Probe + Cable/Connectors	3 Up to 5
8	Telescoping Handle	5
9	Quick Start Guide (Draft)	1
10	Support equipment required to operate the system as specified and perform “minor” repairs (e.g. headphones, carrying case, spare Mylar windows, shoulder straps)	Sufficient

They will be sent to this address:

Canadian Forces Support Unit Ottawa
360 Paul Benoit Driveway
CMTT building 346
Ottawa, On, K1V 2E6
Attention: WO Stephen MacDonald (DGLEPM)
Telephone: 819-939-9369

3.1.5 This kit must be shipped to DND within 40 business days from Phase II contract award, along with any manuals or material that would normally accompany each unit.

- N.B. as this testing occurs prior to final contract award, only the COTS RDS are required, the DND specific requirements (such as the case layout drawing) and training are not required at this point in the process. CAF will be testing the performance against the requirements found in Annex A, therefore this functionality must be present, or the system will fail and be removed from further consideration. However, kitting does not need to be in the final format. As an example, the telescoping handle must be delivered for testing, but it does not need to stow in the hard shelled carrying case as the case will only be required of the winning bid.

3.1.6 Failure to provide the specified equipment within forty business days will result in the disqualification of the Bidder.

3.1.7 Canada reserves the right to perform the tests at any facility deemed appropriate (internal to the Department, other Canadian or Allied government test facilities, as well as external third party test establishments).

3.1.8 The DND Evaluation Panel will consist of stakeholders who are available at the time the evaluation occurs. These stakeholders may comprise RDS operators, Defense Scientists, Defense Contractors, DND Civilian Employees, and / or Military personnel.

3.1.9 For the hand-held system, Base Units and Probes will be evaluated as a single system. The failure of one is the failure of the entire system (the same is true for ancillary equipment such as the telescoping handle, battery packs and cabling).

*Note: this does not mean that no single item can fail during testing, but rather no class of item may fail. As an example, a single beta/gamma probe may break during testing; testing will continue using a spare beta/gamma probe. However, should all the beta/gamma probes fail to demonstrate a mandatory requirement, then the entire system (including base unit and other probes) will be deemed to have failed.

3.1.10 For vehicle systems the same is true. If a component necessary to function as required in the vehicle fails (e.g. Base Unit, Probe, Cable) the entire vehicle system will be considered to have failed.

3.1.11 Vehicle-mounted systems and hand-held systems are not dependent on each other. One may fail without removing the other from consideration.

3.2 PHASE II FUNCTIONAL EVALUATION METHOD

The following sections detail the process that will determine how a given system will be evaluated.

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

3.2.2 Sub-Test – A test may consist of multiple smaller tests (sub-test). As an example, the Temperature Test is performed at -20°C, 22°C and 49°C, so it consists of three sub-tests, one for each temperature.

3.2.3 Iterations – Each sub-test will be repeated (iterated) a certain number of times (most often 10) to obtain a certain degree of statistical support for the findings.

3.2.4 A system may still pass even if an iteration(s) is failed, as long as the average of the iterations of each test meet the stated requirement.

- As an example: if 5 Beta/Gamma probes are being tested for dose rate accuracy, and the average of the iterations for the five B/G probes are 19%, 17%, 23%, 18% and 19%, then even though one probe did not achieve the required < ±20%, the test is passed since the average of the results is ±19.2%
- Coefficient of variation will not be assessed.

- Similarly, a system may fail if the average of the iterations is a fail even if some iterations did meet the requirement.

3.2.5 In the event that a component (probe, base unit, connector, *et cetera*) fails, or provides significantly different results that the other objects under test, it will be determined by the Evaluation Team on a case-by-case basis how to proceed:

- Continue testing with one fewer components,
- Have the component replaced by the Bidder,
- Halt testing and fail the system.

3.2.6 The tests listed herein are what is expected to be performed during Phase II, however, the Evaluation Team reserves the right to modify the testing as required, by modifying the listed tests, adding additional tests or omitting certain tests altogether. Regardless of the final testing plan, all candidate systems that undergo Phase II testing will be tested in as similar a manner as possible.

3.2.7 In addition to these specific tests, the evaluators may summarily fail any system that they notice fails to meet any other mandatory requirement, such as an alarm does not conform to the stated requirements, a weight limit is exceeded, *et cetera*.

3.3 LIST OF PLANNED PASS/FAIL FUNCTIONAL EVALUATION TESTS

3.3.1 The following table lists requirements that are deemed critical and will hence be confirmed by CAF overseen testing. Points will not be assigned for these requirements, but any system that fails to meet the stated requirement will be removed from evaluation and not proceed in the bid process.

		Device Under Test						
Test	**SOW Ref.**	Base Unit	Beta/Gamma	Frisker	Alpha/Beta	HSGP	FIDLER	Neutron
Start-Up	N/A	x	x	x	x	x	x	x
Latency	A2.2.12 A3.2.12	x	x	x	x	x	x	x
Humidity	A1.4.2	x	x	x	x	x	x	x
Low Temperature Storage (-32^{0}C)	A1.4.3	x	x	x	x	x	x	x
Operating -25^{0}C (Cold Start)	A1.4.4	x	x	x	x	x		
High Temperature Storage (+71^{0}C)	A1.4.5	x	x	x	x	x		
Operating +49^{0}C (Hot Start)	A1.4.6	x	x	x	x	x		
Thermal Shock (-25^{0}C → +23^{0}C*)	A1.4.7	x	x	x	x	x		
Thermal Shock (+49^{0}C → +23^{0}C*)	A1.4.7	x	x	x	x	x		
Electromagnetic Environmental Effects (E3) in accordance with MIL-STD-461F.	A1.4.8	x	x	x	x	x	x	x
Drop test in accordance with	A2.1.13	x	x	x	x	x		

MIL-STD-810H, Method 516.8, Shock, Procedure IV Transit Drop – Tactical Drop for infantry and man-carried equipment as specified in Table 516.8-X from a drop height of 1m.	A3.1.13 A4.1.10 A5.1.10							
Shock and vibration in accordance with MIL-STD-810H, Method 514.8, Transportation, Procedure I, Category 4 – Composite Wheeled Vehicle, Figure 514.8C-7, and MIL-STD-810H, Method 516.8, Shock, Procedure II Transportation, Table 516.8-VII.	A2.1.14 A3.1.14	x	x					
Gamma Over-Range Response	A2.2.6 A3.2.7	x				x		

*+23^{0}C refers to uncontrolled laboratory conditions which may not be exact, nor controlled humidity.

3.4 PHASE II: SCORING OF QUANTIFIABLE PARAMETERS

3.4.1 A subset of the requirements are being used to differentiate proposed systems.

3.4.2 The weighting factor is built into each score to reflect the relative importance placed on each by the DND.

3.4.3 The following tables will be used to assign scores to the specified parameter performance of each proposed system.

Vehicle-Mounted RDS Scoring of Quantifiable Parameters

SOW Ref	Description	Scoring Method		Score
A2.1.4	The V-M Base Unit must be operable for a minimum of 12 hours of continuous use in the highest sustained power draw mode using only battery power.	12h-13h >13h to 15h >15h to 20h >20h	0 points 1 point 2 points 3 points	____/3
A2.1.5	The V-M Base Unit must meet or exceed IP64 (protection against dust penetration and water spray).	IP 64 IP 65 or IP 74 IP 75 or greater	0 points 2 point 4 points	____/4
A2.1.12	The V-M Base Unit must be designed for use in all lighting conditions, with all displays and indicators; and being readily visible and easily readable in all lighting conditions.	Colour Monochrome Colour (RGB) Screen size 0-50cm^2 >50cm^2 -100cm^2 >100cm^2	+0 points +3 points +0 points +4 points +6 points	____/9
A2.2.3	The V-M Base Unit must detect gamma radiation energies between 60kev and 3MeV.	Between 60keV and 3MeV (inclusive) Down to 40 keV Up to 6MeV	0 points +1 point +1 point	____/2
A2.2.7	The V-M Base Unit must have a dose rate accuracy of ±20% within 80% of the operational range for gamma energies between 60 keV and 1.2 MeV.	±15.0% ±12.5% ±10.0%	1 point 4 points 6 points	____/6
A2.5.1	The V-M Base Unit must weigh no more than 2.0 kg.	=2.0kg <2.0kg, ≥1.25kg <1.25kg, ≥1.0kg <1.0kg	0 points 2 point 4 points 6 points	____/6

Phase II V-M Score = ____/30

Hand-Held RDS Scoring of Quantifiable Parameters

SOW Ref	Description	Scoring Method		Score
A3.1.4	The H-H Base Unit must be operable for a minimum of 12 hours of continuous use in the highest sustained power draw mode using only battery power.	12h-13h >13h to 15h >15h to 20h >20h	0 points 1 point 2 points 3 points	____/3
A3.1.9	The H-H Base Unit must meet or exceed IP64 (protection against dust penetration and water spray).	IP 64 IP 65 or IP 74 IP 75 or greater	0 points 2 point 4 points	____/4
A3.1.16	The H-H Base Unit must be designed for use in all lighting conditions, 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.	Colour Monochrome Colour (RGB) Screen size 0-50cm^2 >50cm^2 -100cm^2 >100cm^2	+0 points +3 points +0 points +4 points +6 points	____/9
A3.2.3	The H-H Base Unit must detect gamma radiation energies between 60kev and 3MeV.	Between 60keV and 3MeV (inclusive) Down to 40 keV Up to 6MeV	0 points +1 point +1 point	____/2
A3.2.8	The H-H Base Unit must have a dose rate accuracy of ±20% within 80% of the operational range for gamma energies between 60 keV and 1.2 MeV.	±15.0% ±12.5% ±10.0%	1 point 2 points 3 points	____/3
A3.5.1	The H-H Base unit must weigh no more than 1.5 kg.	=1.5kg <1.5kg, ≥1.25kg <1.25kg, ≥1.0kg <1.0kg, ≥0.75kg <0.75kg	0 points 2 point 4 points 6 points 8 points	____/8
A3.6.4	The telescoping handle must weigh no more than 1.2kg.	=1.2kg <1.2kg, ≥1.0kg <1.0kg, ≥0.75kg <0.75kg, ≥0.5kg	0 points 0.5 points 1 points 2points	____/2

SOW Ref	Description	Scoring Method		Score
A4.1.4	The Beta/Gamma Probe must meet or exceed IP54 (protection against dust penetration and water spray).	IP54 IP64 Better than IP64	0 points 1 point 2 points	____/2
A4.1.10	The Beta/Gamma Probe must be fully functional, as defined by the technical requirements herein, after enduring a transit drop in its hand carried configuration (with any protective covering that the device would normally be used in, and outside the transit case) per MIL-STD-810HMethod 516.8 Procedure IV.	From a height of 1 m From a height of 1.5m From a height of 2m	0 points 2 point 4 points	____/4
A4.2.2	The Beta/Gamma Probe must detect gamma radiation between 60kev and 3MeV.	Between 60keV and 3MeV (inclusive) Down to 40 keV Up to 6MeV	0 points +1 point +1 point	____/2
A4.2.7	The Beta/Gamma Probe must have a dose rate accuracy of ±20% within 80% of the operational range for 60 keV – 1.2 MeV gamma.	±15.0% ±12.5% ±10.0%	1 point 2 points 3 points	____/3
A4.3.1	The Beta/Gamma Probe must weigh no more than 1.0 kg.	=1.0kg <1.0kg, ≥0.75kg <0.75kg, ≥0.5kg	0 points 1 points 2 points	____/2
A5.1.10	The Frisker must be fully functional, as defined by the technical requirements herein, after enduring a transit drop in its hand carried configuration (with any protective covering that the device would normally be used in, and outside the transit case) per MIL-STD-810HMethod 516.8 Procedure IV.	From a height of 1 m From a height of 1.5m From a height of 2m	0 points 2 point 4 points	____/4
A5.3.1	The Frisker must weigh no more than 1.0 kg.	=1.0kg <1.0kg, ≥0.75kg <0.75kg, ≥0.5kg <0.5kg	0 points 1 points 2 points 3 points	____/3

SOW Ref	Description	Scoring Method		Score
A6.1.10	The Alpha/Beta Probe must be fully functional, as defined by the technical requirements herein, after enduring a transit drop in its hand carried configuration (with any protective covering that the device would normally be used in, and outside the transit case) per MIL-STD-810HMethod 516.8 Procedure IV.	From a height of 1 m From a height of 1.5m From a height of 2m	0 points 2 point 4 points	____/4
A6.3.1	The ABP must weigh no more than 1.2 kg.	=1.2kg <1.2kg, ≥0.75kg <0.75kg, ≥0.5kg <0.5 kg	0 points 1 points 2 points 3 points	____/3
A7.2.3	The HSGP must have an energy sensitivity of at least 110 cpm/µrad of Cs-137	=110cpm/µrad of Cs-137 >110, ≤120 >120, ≤140 >140 cpm/µrad of Cs-137	0 points 1 points 2 points 3 points	____/3
A7.3.1	The HSGP must weigh no more than 1.0 kg.	=1.0kg <1.0kg, ≥0.75kg <0.75kg, ≥0.5kg <0.5 kg	0 points 1 points 2 points 3 points	____/3
A8.3.1	The FIDLER must weigh no more than 3.5 kg.	=3.5kg <3.5kg, ≥3.0kg <3.0kg, ≥2.5kg <2.5 kg	0 points 1 points 2 points 3 points	____/3
A9.3.1	The NP must weigh no more than 6.0 kg.	=6.0kg <6.0kg, ≥4.5kg <4.5kg, ≥2.5kg <2.5 kg	0 points 1 points 2 points 3 points	____/3

Phase II H-H Score = ____/70

3.4.4 The following table will be used to generate the Phase II Quantifiable Score.

	Achieved Score	Bonus for single combined system	Phase II Quantifiable Score
Vehicle-Mounted System	_____/30 x 100%	N/A	_____%
Hand-Held System	_____/70 x 100%	N/A	_____%
Combined V-M and H-H System	_____/100 x 100%	+5%	_____%

Note, a score of zero would indicate minimum compliance, and would not, in itself, constitute a failure.

3.5 PHASE II: SCORING OF OPERATIONAL PARAMETERS

3.5.1 Simply meeting the technical requirements is insufficient. The successful system must be at least as acceptable to the end-user as the currently deployed kits.

3.5.2 All operational criteria will be evaluated by DND, no attestation or other method of scoring will be substituted. The testers who perform the evaluation will all be end-users.

3.5.3 Scoring will be performed by individual end-users on a scale of 0-5, as follows:

Score	Classification	Comparison to Legacy Systems
0	**Untestable**	
1	**Unacceptable**	Inferior to even the worst legacy system – AUTOMATIC FAILURE
2	**Undesirable**	Compares poorly, but is at least as good as the worst legacy system
3	**Comparable**	No discernable difference from at least one of the legacy systems
4	**Favourable**	At least as good as all the legacy systems
5	**Superior**	Superior to ALL the legacy systems

3.5.4 Because the proposed system is being compared against three legacy systems, CAF does not want to be in the situation where the proposed system is equal only to the worst properties of each of those systems. As such, the PASS/FAIL will be established as follows:

- Any score of '1' will be reviewed by the DND Evaluation Panel to ensure the score is not due to a misunderstanding on the part of the evaluator.
- ANY score where half the evaluators or more score it '1' will be considered a FAIL.
    - A single user who does not like a particular feature does not have the power to fail a system.
- Scores from all users will be averaged separately for each criteria.
- For a system to pass requires an average score of at least '3'
    - Thus a system may still pass with an undesirable trait, but would need favourable or Superior to "balance" the lesser result.

3.5.5 Systems that do not fail, will have their scores weighted and averaged to produce a Merit Score.

3.6 PHASE II FUNCTIONAL EVALUATION SCORING METHODS

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

For each test, the evaluators will enact simulations with the RDS in various "operational configurations" (different probes, shoulder strap, connected to computer, *et cetera*). What constitutes operational configurations will be determined by the testers for each individual test, and they will be as consistent as possible between all the RDS candidates.

3.6.1 RDS Ergonomics

Both while wearing CBRN protective equipment (minimum gloves) and not, the following will be evaluated:

Ergonomic Assessments
Grip – Base Unit alone + Probes + Telescoping handle (telescoping handle not assessed for Vehicle-Mounted System)
Holding for Extended Duration – As above
Weight Distribution – in hand(s)
Weight Distribution – shoulder strap or other distribution system
Comfort in Pouch on Webbing – various configurations
Comfort of Carrying Case(s)

3.6.2 **Physical Usability**

This section will determine the usability by personnel, with and without protective equipment (minimum protective eyewear), by assessing the following:

Physical Usability
Clarity of Screen – including in direct sunlight
“Boot-Up” time (including any required calibration at start-up)
“Hot Swappable” Probes (not assessed for Vehicle Mounted System)
Distinctness of Alarms
Button (dial, *et cetera*) Placement
Button (dial, *et cetera*) Feel and Feedback
Ability to Work in a Vehicle Mount (either vehicle mounted, or hand carried by a passenger in the vehicle)
Ease of Connections (Probes, Headphones, Power Adapter, and Computer Interface)

3.6.3 **Survivability**

Here ‘survivability’ is being used to refer to the ability to endure exposure to dirt and abrasions as well as standard in-field cleaning procedures (soap and water). Primary attention will be paid to determining if the connectors clog with dirt, the screen becomes scratched or dirty and difficult to read, and if moving parts suffer degraded function when exposed to grit or liquid.

A single Survivability Score, between1-5, will be assigned.

3.6.4 **Communication**

The system will be connected to a computer and/or a radio to download data. The data will then be looked at either with the software provided by the Bidder, or with existing CAF software (Excel, Notebook, Explorer, *et cetera*).

Scores will be assigned for the following:

Communication
Ease of connection
Simplicity of on-screen instructions
Resulting download “experience” (speed, interruptions, actions required…)
Quality and readability of the resultant data

3.6.5 **Ease of Use**

Scores will be assigned for the following:

Ease of Use
Arranging the detector/probes on the soldier’s person (webbing, pouch)
Navigating menus
Physically connecting/disconnecting probes/power/comms
Changing batteries

3.6.6 **User Identified Issues**

If any users notice an issue not anticipated it will be recorded here, and the Evaluation Committee will have the other Evaluators review and score the issue on the same 0-5 scale.

3.7 **PHASE II – INDIVIDUAL SCORING TABLES**

3.7.1 This section reproduces the evaluation scoring package. Each evaluator will fill in a separate scoring package for each candidate device. The package consists of scoring sheets for the Base Units, Probes, and general kit.

3.7.2 It has a scoring section for evaluations performed while wearing Personal Protective Equipment (PPE) consisting of a minimum of gloves or a face mask, and a scoring section for no PPE worn.

3.7.3 Not Applicable (N/A) may be applied to any test without introducing a FAIL. For example, if a probe is powered from the Base Unit, a score of N/A would be assigned to the test for changing the probe’s batteries.

3.7.4 Note, as the Vehicle-Mounted System must be dismountable and usable in hand, the same scoring table will be used for scoring both Vehicle-Mounted and Hand-Held Base Units.

Evaluator Name: _____ Date: _____

Device Under Test - Name: _____ S/N: _____

BASE UNIT + GENERAL KIT

TEST		Wearing PPE						Not Wearing PPE				
ERGONOMICS		1	2	3	4	5		1	2	3	4	5
1	Grip											
2	Holding extended for 1 min.											
3	Weight Distribution - Hands											
4	Weight Distribution - Strap											
5	Comfort – in Carrying Pouch											
6	Comfort – of Case											
PHYSICAL USABILITY		1	2	3	4	5		1	2	3	4	5
7	Screen Clarity											
8	Boot-up time											
9	Hot-Swappable (mot required for V-M System)											
10	Distinctness of Alarm											
11	'Button' Placement											
12	'Button' Feedback											
13	Use in a vehicle											
14	Ease of Connections											
SURVIVABILITY		1	2	3	4	5		1	2	3	4	5
15	General Survivability											
COMMUNICATION		1	2	3	4	5		1	2	3	4	5
16	Ease of Connection											
17	On-Screen Instruction											
18	Download Process											
19	Quality of Output											
EASE OF USE		1	2	3	4	5		1	2	3	4	5
20	Use while Worn on Webbing											
21	Menu Navigation											
22	Physical Interfaces											
23	Changing Batteries											

#	USER COMMENTS

Evaluator Name: _____ Date: _____

Device Under Test - Name: _____ S/N: _____

BETA / GAMMA PROBE

TEST		Wearing PPE					Not Wearing PPE				
ERGONOMICS		1	2	3	4	5	1	2	3	4	5
24	Grip										
25	Holding extended for 1 min.										
26	Weight Distribution - Hands										
27	Comfort – in Carrying Pouch										
28	Comfort – in Case										
PHYSICAL USABILITY		1	2	3	4	5	1	2	3	4	5
29	'Button' Placement										
30	'Button' Feedback										
31	Ease of Connections										
SURVIVABILITY		1	2	3	4	5	1	2	3	4	5
32	General Survivability										
EASE OF USE		1	2	3	4	5	1	2	3	4	5
33	Use while Worn on Webbing										
34	Physical Interfaces										
35	Changing Batteries										

FRISKER PROBE

TEST		Wearing PPE					Not Wearing PPE				
ERGONOMICS		1	2	3	4	5	1	2	3	4	5
36	Grip										
37	Holding extended for 1 min.										
38	Weight Distribution - Hands										
39	Comfort – in Carrying Pouch										
40	Comfort – in Case										
PHYSICAL USABILITY		1	2	3	4	5	1	2	3	4	5
41	'Button' Placement										
42	'Button' Feedback										
43	Ease of Connections										
SURVIVABILITY		1	2	3	4	5	1	2	3	4	5
44	General Survivability										
EASE OF USE		1	2	3	4	5	1	2	3	4	5
45	Physical Interfaces										
46	Changing Batteries										

Evaluator Name: _____ Date: _____

Device Under Test - Name: _____ S/N: _____

ALPHA / BETA PROBE

TEST		Wearing PPE					Not Wearing PPE				
ERGONOMICS		1	2	3	4	5	1	2	3	4	5
47	Grip										
48	Holding extended for 1 min.										
49	Weight Distribution - Hands										
50	Comfort – in Carrying Pouch										
51	Comfort – in Case										
PHYSICAL USABILITY		1	2	3	4	5	1	2	3	4	5
52	'Button' Placement										
53	'Button' Feedback										
54	Ease of Connections										
SURVIVABILITY		1	2	3	4	5	1	2	3	4	5
55	General Survivability										
EASE OF USE		1	2	3	4	5	1	2	3	4	5
56	Physical Interfaces										
57	Changing Batteries										

HIGH SENSITIVITY GAMMA PROBE

TEST		Wearing PPE					Not Wearing PPE				
ERGONOMICS		1	2	3	4	5	1	2	3	4	5
58	Grip										
59	Holding extended for 1 min.										
60	Weight Distribution - Hands										
61	Comfort – in Carrying Pouch										
62	Comfort – in Case										
PHYSICAL USABILITY		1	2	3	4	5	1	2	3	4	5
63	'Button' Placement										
64	'Button' Feedback										
65	Ease of Connections										
SURVIVABILITY		1	2	3	4	5	1	2	3	4	5
66	General Survivability										
EASE OF USE		1	2	3	4	5	1	2	3	4	5
67	Physical Interfaces										
68	Changing Batteries										

Evaluator Name: _____ Date: _____

Device Under Test - Name: _____ S/N: _____

NEUTRON PROBE

TEST		Wearing PPE						Not Wearing PPE				
ERGONOMICS		1	2	3	4	5		1	2	3	4	5
69	Grip											
70	Holding extended for 1 min.											
71	Weight Distribution - Hands											
72	Weight Distribution - Straps											
73	Comfort – in Case											
PHYSICAL USABILITY		1	2	3	4	5		1	2	3	4	5
74	'Button' Placement											
75	'Button' Feedback											
76	Ease of Connections											
SURVIVABILITY		1	2	3	4	5		1	2	3	4	5
77	General Survivability											
EASE OF USE		1	2	3	4	5		1	2	3	4	5
78	Physical Interfaces											
79	Changing Batteries											

FIDLER PROBE

TEST		Wearing PPE						Not Wearing PPE				
ERGONOMICS		1	2	3	4	5		1	2	3	4	5
80	Grip											
81	Holding suspended for 1 min.											
82	Weight Distribution - Hands											
83	Weight Distribution - Strap											
84	Adjustability of Straps											
85	Comfort – in Case											
PHYSICAL USABILITY		1	2	3	4	5		1	2	3	4	5
86	Screen Clarity											
87	'Button' Placement											
88	'Button' Feedback											
89	Ease of Connections											
SURVIVABILITY		1	2	3	4	5		1	2	3	4	5
90	General Survivability											
EASE OF USE		1	2	3	4	5		1	2	3	4	5
91	Menu Navigation											
92	Physical Interfaces											
93	Changing Batteries											

#	USER PROBE COMMENTS

3.8 PHASE III – DETERMINATION OF OPERATIONAL SCORE

Once the individual technical evaluators have submitted their scores, the DND Evaluation Panel will review and summarize the findings for each system. The following Summary Sheet will be used:

RDS PHASE III PASS/FAIL SHEET

Device Under Test - Name: _____

S/N: _____

Date: _____

Was any aspect found to be UNTESTABLE (0)?	**Y / N**
If YES: what was the Evaluation Panel ruling? Explanation:	CONTINUE / FAIL
Repeat as needed.	

Was any aspect found to be UNACCEPTABLE (1)?	**Y / N**
If YES: Has the Evaluation Panel reviewed it and let the score stand?	
Evaluator _____ Test # _____ Final Score _____	Explanation:
Repeat as needed.	

Did any test have ≥50% of the evaluators score it UNACCEPTABLE (1)?			**Y / N**
Test # _____	Confirmed by Evaluation Panel	**Y / N**	PASS / FAIL
Test # _____	Confirmed by Evaluation Panel	**Y / N**	PASS / FAIL
Test # _____	Confirmed by Evaluation Panel	**Y / N**	PASS / FAIL
Repeat as needed			

Is the System At Least As Good, On Average, As The Legacy System?

	Total Number of Scores of '5' _____		
+	Total Number of Scores of '4' _____		
-	Total Number of Scores of '2' _____	Less Than Zero	FAIL
	= _____	Not Less Than Zero	PASS

OPERATIONAL CRITERIA EVALUATION	**PASS / FAIL**

3.8.1 Once a pass has been established, the final score will simply be the percent average of all individual scores from all evaluators both in and out of PPE. Hence, if the average score is 4.5 / 5 then the Operational Criteria Evaluation Score would be 4.5/5*100% = 90%.

3.8.2 **Calculation of Final Point Rated Technical Criteria Score**

The final 'Score' is the average of the Quantifiable Parameters Score (section 3.4.4) and the Operational Criteria Evaluation Scores (section 3.8.1).

The Final Point Rated Technical Criteria Score will then be combined, by PSPC, with the final financial score in a ratio of 6:4 to determine the project score. The contract will be awarded to the bidder with the highest project score.