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

Munitions Division (BK) / Division des munitions (BK)
11 Laurier St./11, rue Laurier
8C2, Place du Portage, Phase III
Gatineau
Québec
K1A 0S5

Title - Sujet TACTICAL LIGHTWEIGHT BOMBSUITS	
Solicitation No. - N° de l'invitation W8476-123451/A	**Amendment No. - N° modif.** 003
Client Reference No. - N° de référence du client W8476-123451	**Date** 2013-10-02
GETS Reference No. - N° de référence de SEAG PW-$$BK-372-23980	
File No. - N° de dossier 372bk.W8476-123451	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-10-08	**Time Zone** **Fuseau horaire** Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☑ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Razeau, Ida-Marie	**Buyer Id - Id de l'acheteur** 372bk
Telephone No. - N° de téléphone (819) 956-0578 ( )	**FAX No. - N° de FAX** (819) 956-5650
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

Solicitation Amendment three (3) is issued to publishe questions and answers and to make administrative changes.

Question 7:

Reference SOW para: 3.2.1.5:

"Available Chest and Groin Protection (requested through Option quantities, which can be used instead of in-service fragmentation protective vest for blast overpressure protection)"
In our TLB solution, the Chest and Groin plate is designed to be worn in conjunction with a standard issue fragmentation protective vest. All testing of the TAC 6 has been completed with the fragmentation protection vest included, even when wearing the Chest and Groin Protection. In addition, because the Suit was designed with the in-service fragmentation protection vest being worn, appropriate sizing and fit will be compromised if the TLB Suit is worn without the vest.

Question: Would the Crown change section 3.2.1.5 of Annex A to read:
Available Chest and Groin Protection (requested through Option quantities, which may be used in conjunction with or instead of the in-service fragmentation protective vest for blast overpressure protection)"

Answer 7:

Canada will agree to the requested change. Annex A SOW paragraph 3.2.1.5 will now state:
Available Chest and Groin Protection (requested through Option quantities, which may be used in conjunction with or instead of the in-service fragmentation protective vest for blast overpressure protection).

Question 8:

Reference SOW para 3.2.6.3 and 3.2.8:

"The ballistic helmet visor shall work in conjunction with the Neck/Shoulder Protection (para 3.2.8) to prevent knockback of the head and protection of the throat in the event of a blast."
We interpret the above as two separate requirements:
A-The ballistic helmet visor shall work in conjunction with the Neck/Shoulder Protection to prevent knockback of the head in the event of a blast.
B-The ballistic helmet visor shall work in conjunction with the Neck/Shoulder Protection to provide protection of the throat in the event of a blast.
To address A, we interpret "knockback of the head" as whiplash-type injuries related to differential motion between the head and the torso. In the case of whiplash injures, the ballistic helmet visor plays an indirect role as blast data on helmets equipped with full-face visors

indicates a significant reduction in head acceleration as compared to helmets without full-face visor. While no direct correlation between head acceleration and neck whiplash (or knockback) have been established to our knowledge, it is estimated that the reduction in head acceleration provided by the ballistic helmet visor will turn into a reduction in "knockback". Furthermore, the neck protector of the TLB Suit provides very limited protection against "knockback" as it has been designed to allow for full range of motion of the head (e.g. looking up, or looking in front in a prone position), which is very different from the protection provided by the integrated heavy bomb suit.
To address B, the event of a frontal blast, the throat area is protected by the joint contribution of the ballistic helmet visor and the neck protection.

Question: Would the Crown consider changing the requirement to: "The ballistic helmet visor shall work in conjunction with the Neck/Shoulder Protection (para 3.2.8) to reduce prevent knockback of the head and to provide protection of the throat in the event of a blast."

Answer 8:

Canada will agree to the requested change. Annex A SOW paragraph 3.2.6.3 will now state: The ballistic helmet visor shall work in conjunction with the Neck/Shoulder Protection (para 3.2.8) to reduce knockback of the head and provide protection of the throat in the event of a blast.

Question 9:

Ref: Annex A, Para 3.2.3 and 3.2.4

" 3.2.3 Ergonomics
3.2.3.1 The TLB Suit shall provide seamless protection over the entire body, when matched with the in-service equipment (see para 3.2.2.1), providing overall protective capabilities, regardless of the wearer's position.
3.2.3.2 The TLB Suit shall be a multi-piece design to:
3.2.3.2.1 Facilitate rapid donning and doffing; and
3.2.3.2.2 Enable mixing of components from the other size ranges to address variations in operator torso/limb sizes.
3.2.4 Closure and Adjustment Characteristics
3.2.4.1 The method of closing and sealing the TLB suit, when donned, shall provide sufficient overlap of protective material to ensure that a consistent level of protection is maintained over the body."

Question:
It is very challenging to have a multi-piece TLB Suit design that provides seamless protection over the entire body. For instance, there will be a seam where the TLB suit meets the in-service equipment. Furthermore, to afford mobility, the entire body cannot be equally protected. In fact,

key locations will have minimal protection, for example: at the back of the knees, to allow the wearer to bend the knee as they go up and down stairs. Would the Crown consider changing Para 3.2.3.1 to read "The TLB Suit shall provide seamless modular, scalable full body ballistic protection over the entire body, when matched with the in-service equipment ..." In addition, would the Crown consider changing Para 3.2.4.1 to read "The method of closing and sealing the TLB suit, when donned, shall provide sufficient overlap of protective material to ensure that a consistent level of protection is maintained over the body, across the seam."

Answer 9:

Canada will agree to the requested changes. Annex A SOW paragraph 3.2.3.1 will now state: The TLB Suit shall provide seamless modular, scalable full body ballistic protection over the entire body, when matched with the in-service equipment (see para 3.2.2.1), providing overall protective capabilities, regardless of the wearer's position.

Annex A SOW paragraph 3.2.4.1 will now state: The method of closing and sealing the TLB suit, when donned, shall provide sufficient overlap of protective material to ensure that a consistent level of protection is maintained over the body across the seam.

Question 10:

Ref: Annex A para 3.1.1.1 - TLB Suits shall be assembled using production components from a current production line.

Question

It is our understanding that the requirement that production suits are assembled using production components from a current production line is a mandatory requirement in order to ensure that the proposed Suit is not solely conceptual and has evolved to a requisite level of maturity in production. However the evidence required is very limited to support this mandatory requirement in that there are no quantity parameters required to prevent a production lot of one or two Suits to meet this requirement. Would the Crown consider requesting evidence of a minimum threshold of production of 100 TLB Suits by submitting with the bid a minimum of two (2) contracts as support of a current production line demonstrating a suitable level of product maturity?

Answer 10:

Canada will not agree to the changes requested for this requirement.

Question 11:

As all ILS deliverables are due prior to product delivery, would the Crown accept a proposed reasonable milestone payment schedule aligned with this? Milestone payments have been deemed acceptable on RFPs of a similar nature in recent solicitations.

Answer 11:

No, as per stated Terms and Conditions 2010A 10 (2013-03-21) Invoice Submission:
The contracctor shall be paid for each item delivered and invoiced.

Question 12:

In order to allow Bidders to more effectively streamline their ILS delivery for this requirement, without unduly extending the overall program delivery schedule, would the Crown consider extending the following CDRL due dates by 14 calendar days:
ILS-201 Operator Manual
ILS-203 Interim Spare Parts List
ILS-204 Recommended Spare Parts List

Answer 12:

Canada will accept the extension of these CDRL due dates by 14 calendar days. Annex A Appendix 2 - CDRL will be amended accordingly.

Administrative Changes:

At Annex C Technical Bid Evaluation (page 14, Table 2: Activity Routine - Evaluation Trial):

DELETE Activity #1 -

Carry the TLB Suit in in-service backpack/rucksack, in full fighting order and basic load for a 5 kilometre (3.11 mile) march.

DELETE Activity #4:

Crawl through a culvert a distance of at least 10 meters (approx. 33 feet), and

REPLACE with Activity #4:

Crawl a distance of at least 10 meters (approx. 33 feet).

DELETE Activity #5:

Complete the Test of Elementary Training (weapon proficiency) (ToET).

DELETE Activity #11:

Mental acuity test involving the loading and unloading of a disruptor with a blank cartridge.

Revised Document included:

Annex A - Statement of Work
Annex C - Technical Bid Evaluation

All other Terms and Conditions remain unchanged.

STATEMENT OF WORK

FOR

TACTICAL LIGHTWEIGHT BOMB (TLB) SUIT

TABLE OF CONTENTS

Related Appendix & ANNEX documents:

APPENDIX 1: Data Item Description (DID) for the Tactical Lightweight Bomb Suit (TLB Suit)

APPENDIX 2: Contract Data Requirements List (CDRL) the Tactical Lightweight Bomb Suit (TLB Suit)

APPENDIX 3: Specification for CADPAT™ (TW) [Canadian Disruptive Pattern (Temperate Woodland)]

APPENDIX 4: Specification for CADPAT™ (AR) [Canadian Disruptive Pattern (Arid)]

1.0 Scope

1.1 Purpose

1.1.1 The purpose of this Statement of Work (SOW) is to define the work requirements for the provision of Tactical Lightweight Bomb (TLB) Suits for use by CF Explosive Ordnance Disposal (EOD) personnel (EOD operators).

1.2 Background

1.2.1 CF EOD operators are required to clear unexploded ordnance (UXO) and Improvised Explosive Devices (IEDs). IEDs come in all sizes, shapes and forms, with various explosive contents and with increasingly sophisticated means of initiation. IEDs pose the most serious threat to EOD operators. In some cases, the HB/CP Suit (heavy bomb suit) lacks sufficient portability to be taken on task. For these non-permissive environments, a lighter, portable protection system is required to provide similar protection in a scalable form when the HB/CP Suit cannot be used.

1.3 Intended Use

1.3.1 A TLB Suit will be worn during IED disposal operations to provide protection against explosive blast effects and fragmentation contents of an IED. The suit will be employed anywhere in the world under various climatic conditions and harsh physical environments. It will be subject to repeated periods of sustained and rugged use followed by extended storage.

1.4 Acronyms and Abbreviations

AR	Arid Region
CA	Contracting Authority
CADPAT™	Canadian Disruptive Pattern
CDRL	Contract Data Requirements List
CE	Conformité Européenne ("European Conformity")
CEPA	Canadian Environmental Protection Act
CF	Canadian Forces
CFTO	Canadian Forces Technical Orders
DID	Data Item Description
DND	Department of National Defence
DSCO	Director Supply Chain Operations
DSSPM	Director Soldier Systems Project Management
DTMS	Defence Terminology Management System
EHS	Environmental Health and Safety
EHSIR	Environmental Health and Safety Impact Report
EOD	Explosive Ordnance Disposal
FSP	Fragment Simulating Projectile
Hz	Hertz
IAW	In Accordance With
IEC	International Electrotechnical Commission
IED	Improvised Explosive Device
ILS	Integrated Logistics Support
ISO	International Organization for Standardization
MSDS	Material Safety Data Sheets
NATO	North Atlantic Treaty Organization
NBC	Nuclear Biological Chemical
NCAGE	Commercial and Government Entity
NIJ	National Institute of Justice
NSN	NATO Stock Number
OEM	Original Equipment Manufacturer
PMP	Project Management Plan

POL	Petroleum, Oil, Lubricants
PWGSC	Public Works and Government Services Canada
QA	Quality Assurance
R&O	Repair & Overhaul
RFP	Request for Proposal
SOW	Statement of Work
SPTD	Supplementary Provisioning Technical Documentation
STANAG	NATO Standardization Agreement
TA	Technical Authority
TIES	Technical Investigation and Engineering Support
TLB Suit	Tactical Lightweight Bomb Suit
TW	Temperate Woodlands
UL	Underwriters Laboratories
UXO	Unexploded Ordnance

2.0 Applicable Documents

2.1 Applicability

2.1.1 The following documents form part of the SOW to the extent specified herein and shall be considered supplemental if not specifically identified in the text. Unless otherwise specified, the issue or amendment of the documents effective for the contract shall be those in effect on the date of the RFP.

2.2 References

2.2.1 Whereas mentioned, the following Standards shall be used for the preparation of deliverables to the extent specified in this SOW:

C-01-100-100/AG-005	FOREIGN GOVERNMENT PUBLICATIONS AS ADOPTED PUBLICATIONS
C-01-100-100/AG-006	WRITING, FORMAT AND PRODUCTION OF TECHNICAL PUBLICATIONS
D-01-100-207/SF-002	SPECIFICATION - PREPARATION OF INTERIM ILLUSTRATED PARTS MANUALS FOR LAND EQUIPMENTS
D-01-100-214/SF-000	SPECIFICATION FOR PREPARATION OF PROVISIONING DOCUMENTATION FOR CANADIAN FORCES EQUIPMENT
D-01-400-001/SG-000	STANDARD - ENGINEERING DRAWING PRACTICES FOR CLASS 1 DRAWINGS AND TECHNICAL DATA LIST
D-01-400-002/SF-000	SPECIFICATION - DRAWINGS, ENGINEERING AND ASSOCIATED LISTS
D-02-002-001/SG-001	STANDARD – IDENTIFICATION MARKING OF CANADIAN MILITARY PROPERTY
D-LM-008-001/SF-001	METHODS OF PACKAGING

D-LM-008-002/SF-001	SPECIFICATION FOR MARKING FOR STORAGE AND SHIPMENT
D-LM-008-011/SF-001	PREPARATION AND USE OF PACKAGING REQUIREMENTS CODES
D-80-001-055/SF-001	SPECIFICATION FOR LABEL, CLOTHING AND EQUIPMENT
ISO 10005	QUALITY MANAGEMENT SYSTEM GUIDELINES
MIL-P-46593A	PROJECTILE, CALIBERS .22, .30, .50 AND 20MM FRAGMENT SIMULATING
MIL-STD-622F	V50 BALLISTIC TEST FOR ARMOUR
STANAG 2911 (EDITION 2)	DESIGN CRITERIA FOR FRAGMENTATION PROTECTIVE BODY ARMOUR
STANAG 2920 (EDITION 2)	BALLISTIC TEST METHOD FOR PERSONNEL ARMOUR MATERIALS AND COMBAT CLOTHING
TR-HFM-089	TEST METHODOLOGIES FOR PERSONAL PROTECTIVE EQUIPMENT AGAINST ANTI-PERSONNEL MINE BLAST

2.3 Order of Precedence

2.3.1 Unless otherwise specified, the issue or the amendment of the documents for this contract shall be those in effect on the date of contract award. The Contractor shall bring to the attention of the TA any perceived inconsistencies between the SOW and the documents attached in the Appendixes/Annexes or referenced in this SOW. In the event of conflict between the content in this SOW and the referenced documents, the content of this SOW shall take precedence.

3.0 Technical Requirements

3.1 System Characteristics

3.1.1 General

3.1.1.1 The TLB Suit requirement shall be assembled using production components from a current production line that are not prototypes or pre-production models.

3.1.2 Design

3.1.2.1 The TLB Suit shall protect the EOD operator in the hazardous conditions encountered in IED disposal operations, while remaining lightweight and portable for deployment in non-permissive environments.

3.1.2.2 As the IED threat is variable and unpredictable, the TLB Suit shall be scalable and adaptable for operation in various combinations of ballistic protection and portability.

3.1.2.3 All components of the TLB Suit (see para. 3.2.1) shall be designed to work together with in-service CF components (see para. 3.2.2.1) to provide full body ballistic protection.

3.1.2.4 Any components in, or included as part of, the TLB Suit that are prone or exposed to excessive wear and tear, shall be designed with additional protection, reinforcement or consumable replacement items in order to maintain the integrity and protective qualities of the suit.

3.1.2.5 The design of the TLB Suit shall be guided by the content of STANAG 2911 - Design Criteria for Fragmentation Protective Body Armour.

3.1.3 Transportability

3.1.3.1 The TLB Suit shall be easily transportable with no more than 10 minutes preparation time.

3.1.3.2 The TLB Suit shall be transportable by fixed and rotary wing aircraft, cargo ships, rail, and commercial and military wheeled vehicles on highways and cross-country.

3.1.4 Service Life

3.1.4.1 The in-service life of TLB Suit shall be no less than ten (10) years.

3.2 System Components

3.2.1 The TLB Suit shall consist of the following components for ballistic protection:

3.2.1.1 Ballistic Helmet Visor (used in conjunction with in-service CG634 helmet)

3.2.1.2 Arm protection

3.2.1.3 Neck/shoulder protection

3.2.1.4 Lower Body protection

3.2.1.5 Available Chest and Groin Protection (requested through Option quantities, which may be used in conjunction with or instead of the in-service fragmentation protective vest for blast overpressure protection).

3.2.2 Compatibility

3.2.2.1 The TLB Suit shall be compatible with the following in order to provide full body protection:

3.2.2.1.1 The in-service CG634 helmets:

3.2.2.1.1.1 small: NSN 8470-21-912-7604; and

3.2.2.1.1.2 medium: NSN 8470-21-912-7605; and

3.2.2.1.1.3 large: NSN 8470-21-912-7606.

3.2.2.1.2 The in-service fragmentation protective vest:

3.2.2.1.2.1 x-small/short: NSN 8470-21-921-3064; and

3.2.2.1.2.2 x-small/regular: NSN 8470-21-921-3065; and

3.2.2.1.2.3 small/short: NSN 8470-21-921-3067; and

3.2.2.1.2.4 small/regular: NSN 8470-21-921-3068; and

3.2.2.1.2.5 small/tall: NSN 8470-21-921-3069; and

3.2.2.1.2.6 medium/short: NSN 8470-21-921-3070; and

3.2.2.1.2.7 medium/regular: NSN 8470-21-921-3071; and

3.2.2.1.2.8 medium/tall: NSN 8470-21-921-3072; and

3.2.2.1.2.9 large/short: NSN 8470-21-921-3073; and

3.2.2.1.2.10 large/regular: NSN 8470-21-921-3075; and

3.2.2.1.2.11 large/tall: NSN 8470-21-921-3079.

3.2.2.1.3 The in-service bullet resistant plates:

3.2.2.1.3.1 NSN 8470-21-921-3223;

3.2.2.1.4 The in-service CF combat boots:

3.2.2.1.4.1 NSN 8430-21-872-4291;

3.2.3 Ergonomics

3.2.3.1 The TLB Suit shall provide seamless modular, scalable full body ballistic protection over the entire body, when matched with the in-service equipment (see para 3.2.2.1), providing overall protective capabilities, regardless of the wearer's position.

3.2.3.2 The TLB Suit shall be a multi-piece design to:

3.2.3.2.1 Facilitate rapid donning and doffing; and

3.2.3.2.2 Enable mixing of components from the other size ranges to address variations in operator torso/limb sizes.

3.2.4 Closure and Adjustment Characteristics

3.2.4.1 The method of closing and sealing the TLB suit, when donned, shall provide sufficient overlap of protective material to ensure that a consistent level of protection is maintained over the body across the seam.

3.2.5 Maintenance and Cleaning

3.2.5.1 The TLB Suit shall allow for any blast or fragmentation protective inserts to be removed for cleaning.

3.2.5.2 The TLB Suit outer shell shall be capable of being hand-cleaned with standard commercially available household-type cleaning products.

3.2.5.3 If the TLB Suit is contaminated by Petroleum, Oil, Lubricants (POL), hand-cleaning of the outer shell with standard household cleaning products shall remove sufficient amounts of the POL as to render its presence non-hazardous to combustion.

3.2.6 Ballistic Helmet Visor

3.2.6.1 The Ballistic Helmet Visor shall be compatible with the in-service CG634 helmet (para 3.2.2.1.1).

3.2.6.2 The ballistic helmet visor shall provide full face coverage.

3.2.6.3 The ballistic helmet visor shall work in conjunction with the Neck/Shoulder Protection (para 3.2.8) to reduce knockback of the head and provide protection of the throat in the event of a blast.

3.2.7 Arm Protection

3.2.7.1 The TLB Suit shall include Arm Protection (full sleeves) that securely attach to the suit.

3.2.7.2 Arm Protection shall have integrated pouches capable of holding EOD tools and small pieces of equipment.

3.2.8 Neck/Shoulder Protection

3.2.8.1 The TLB Suit shall include Neck/Shoulder Protection to protect the operator's head and neck from knockback and fragmentation in the case of an explosion.

3.2.8.2 The Neck/Shoulder Protection shall protrude outward from the body and cover the operator's neck and chin.

3.2.8.3 The Neck/Shoulder Protection shall provide full shoulder coverage and protection.

3.2.9 Lower Body Protection

3.2.9.1 Lower Body Protection shall cover the entire lower body from waist to the ankle and be comprised of groin, thigh, hamstring, knee, shin, and calf protection.

3.2.10 Chest and Groin Protection (requested through Option quantities)

3.2.10.1 Chest and Groin Protection shall integrate with the other components of the TLB Suit.

3.2.10.2 Chest and Groin Protection shall provide blast overpressure and fragmentation protection to the chest, abdomen and groin.

3.3 Physical Characteristics

3.3.1 Size

3.3.1.1 The TLB Suit shall be provided in at least the following three (3) size ranges, and within each size range, have at least three (3) sub-size ranges (additional size ranges and sub-size ranges will be considered so long as the final TLB Suit quantity is maintained);

3.3.1.2 Size Ranges

3.3.1.2.1 Size 1 shall support a waist size range between 76 to 82 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below.

3.3.1.2.2 Size 2 shall support a waist size range between 86 to 92 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below.

3.3.1.2.3 Size 3 shall support a waist size range between 96 to 102 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below.

3.3.1.3 Height Range

3.3.1.3.1 The short, medium and tall sub-sizes shall cover at least the height range between 162 cm and 188 cm tall.

3.3.1.4 To accommodate variations in the sizes of individual CF EOD operators, TLB Suit components from the above size groups shall be capable of being worn with components from other adjacent size groups without degradation of protection.

3.3.2 Weight

3.3.2.1 The TLB Suits fitting size ranges 1, 2 and 3 shall not exceed 14 kg **excluding** the Ballistic Helmet Visor and Chest and Groin Protection.

3.3.2.2 The Ballistic Helmet Visor shall not exceed 2 kg.

3.3.2.3 The Chest and Groin Protection shall not exceed 6 kg in any size.

3.3.3 Colour

3.3.3.1 The TLB Suit shall be available in the following colours:

3.3.3.1.1 Arid Canadian Disruptive Pattern (CADPAT™) (IAW Appendix 4 to Annex A, CADPAT™ (AR)) except for high wear surfaces, such as knees and elbow, and minor attachments, such as the Ballistic Helmet Visor trim and tool pouches which shall either be non-reflective Light Sand, Arid CADPAT™, or black in color; and

3.3.3.1.2 Temperate Woodland CADPAT™ (IAW Appendix 3 to Annex A, CADPAT™ (TW)) except for high wear surfaces, such as knees and elbow, and minor attachments, such as the Ballistic Helmet Visor trim and tool pouches, which shall either be non-reflective Canadian Average Green, Temperate Woodland CADPAT™, or black in colour; and

3.3.3.1.3 All black in colour.

3.4 Performance Characteristics

3.4.1 TLB Suit Performance

3.4.1.1 TLB Suit, along with the Chest and Groin Protection, shall be designed for blast injury protection. TLB Suit sources of blast injury include:

3.4.1.1.1 Primary (blast overpressure) caused by the direct effects of the blast (blast induced variations in the environmental pressure). This could result in injuries to the lungs, upper respiratory tract, gastrointestinal tract and solid intra-abdominal organs.

3.4.1.1.2 Secondary (fragmentation) ballistic injuries due to fragmentation and flying debris.

3.4.1.2 Blast overpressure

3.4.1.2.1 The TLB Suit, along with the Chest and Groin Protection, test results shall indicate the overpressure protection provided by the TLB suit to the EOD operator for multiple quantities of explosive at different proximities.

3.4.1.2.1.1 The TLB Suit, along with the Chest and Groin Protection, test results shall correlate lethality/survivability data with pressure-duration characteristics of the free-field blast.

3.4.1.2.1.2 The TLB Suit, along with the Chest and Groin Protection, shall have a fifty percent (50%) or greater survivability, to the EOD operator wearing the TLB Suit, along with the Chest and Groin Protection, from blast overpressure as compared to an unprotected EOD operator. This is similar to the V50 requirements under Fragmentation below at para. 3.4.1.3.

3.4.1.2.1.3 The TLB Suit, along with the Chest and Groin Protection, test plan(s) shall follow parameters as outlined in Test Methodologies for Personal Protective Equipment Against Anti-Personnel Mine Blast Technical Report TR-HFM-089, specifically:

3.4.1.2.1.3.1 Explosive Mass and Type – Minimum 100g of C4, or equivalent.

3.4.1.2.1.3.2 Depth of Burial – Between flush buried (0mm) and 20mm depth (top of container to soil surface).

3.4.1.2.1.3.3 Explosive test charge distance – No more than 1m distance from mannequin upper body region.

3.4.1.3 Fragmentation

3.4.1.3.1 The TLB Suit shall meet MIL-STD-662F using the .22 Cal. projectile as specified in MIL-P-46593A or STANAG 2920 using the NATO 17 grain chisel nose Fragment Simulating Projectile (FSP), for the different body zones (All test results shall be based on a minimum n=3 for all tests, where n is number of trials):

3.4.1.3.1.1 The TLB Suit shall meet or exceed protection of Neck (front): V50 570 m/s.

3.4.1.3.1.2 The TLB Suit shall meet or exceed protection of Shoulder: V50 550 m/s.

3.4.1.3.1.3 The TLB Suit shall meet or exceed protection of Arms: V50 425 m/s.

3.4.1.3.1.4 The TLB Suit shall meet or exceed protection of Legs (front incl. groin): V50 425 m/s.

3.4.1.3.1.5 The TLB Suit shall meet or exceed protection of Legs (rear): V50 225 m/s.

3.4.1.3.1.6 The TLB Suit shall meet or exceed protection of Knees: V50 500 m/s.

3.4.1.3.1.7 The TLB Suit shall meet or exceed protection of Visor: V50 400 m/s.

3.4.1.3.1.8 The Chest and Groin Protection shall meet or exceed protection of chest: V50 1600 m/s, and groin: V50 1400m/s.

3.4.2 Overall System Performance

3.4.2.1 The TLB Suit shall meet the following system performance requirements:

3.4.2.1.1 Ascending, Descending and Stepping over Obstacles

3.4.2.1.1.1 The TLB Suit shall allow the user to ascend and descend stairways (up to 20 cm steps) and ladders (with wrung spacing up to 30 cm), and to step over obstacles up to 30 cm high.

3.4.2.1.2 Donning and doffing

3.4.2.1.2.1 The EOD operator shall be able to don or doff the TLB Suit without assistance.

3.4.2.1.2.2 The EOD operator shall be able to don and doff the TLB Suit without removal of the in-service fragmentation protective vest, and without compromising the in-service fragmentation protective vest protection of the EOD operator.

3.4.2.1.2.3 Any method of securing the position of the TLB Suit components shall be adjustable by the EOD operator wearing combat or cold weather gloves.

3.4.2.1.3 Static Electricity

3.4.2.1.3.1 The TLB Suit shall present no static electricity hazard to EOD operators handling volatile or explosive materials.

3.5 Environmental and Climatic Characteristics

3.5.1 The TLB Suit shall provide fragmentation as well as blast protection (along with the Chest and Groin Protection), in mist, fog, rain, sleet and snow.

3.5.2 The TLB Suit shall be capable of operation in the temperature range of – 20°C to at least + 45°C.

3.5.3 The TLB Suit components shall not warp or deform nor otherwise degrade their protective performance during shipping or storage within temperature extremes of -30°C to +50°C.

4.0 Environmental Health and Safety

4.1 General

4.1.1 Environmental Health and Safety (EHS) consideration shall be incorporated and documented into the decision making process for the Work performed under this Contract. EHS documentation shall be maintained within the project file throughout the life of this Contract. The Contractor shall provide for and allow DND inspection and monitoring of EHS documentation throughout the life of the contract.

4.1.2 Polychlorinated Biphenyls (PCBs), halocarbons (as identified within the Ozone-Depleting Substances Regulations, 1998), and asbestos are not to be incorporated into the design, operation and maintenance of the equipment, or products used in equipment support activities.

4.1.3 The Contractor shall identify and report all sources of mercury contained or used within the design, operation and maintenance of the equipment, or products used in equipment support activities.

4.1.4 The Department is committed to the Federal programs to reduce or eliminate emissions from toxic substances. Contractors shall identify and submit justifications for the use of all regulated products and those containing substances identified within the Accelerated Reduction/Elimination of Toxics (ARET, http://www.ec.gc.ca/nopp/aret/en/list.cfm), National Pollutant Release Inventory (NPRI, http://www.ec.gc.ca/pdb/npri/npri_home_e.cfm) and/or List of Challenge Substances: (http://www.chemicalsubstanceschimiques.gc.ca/challenge-defi/list_e.html), and also for products containing heavy metals (heavy metals are those identified within Schedule 1 of the Canadian Environmental Protection Act (CEPA)) to the technical authority for approval.

4.1.5 Canada Labour Code, Part II dictates that the least hazardous materials should be used at the workplace. Therefore, the Contractor is to strive to use the least hazardous product that meets the requisite performance requirements.

4.1.6 New or amended support documentation such as Canadian Forces Technical Orders (CFTOs) shall incorporate appropriate EHS warnings and instructions in direct relation of the EHS risks presented in the contents.

4.1.7 It is the Contractor's responsibility to ensure that specifications, standards, support documents and test programs are reviewed for EHS compliance.

4.2 Environmental Management System:

4.2.1 The Contractor shall have a management system in place to control environmental, health and safety impacts resulting from their activities, products or services.

4.2.2 The Contractor shall have a formalized set of procedures and control measures in place to achieve conformance with the requirements of this Work, while ensuring environmental, health and safety protection and pollution prevention.

4.2.3 The Contractor shall also make reasonable effort to monitor that all subcontractors are in compliance with applicable environmental laws and regulations.

5.0 Project Management

5.1 Project Management Program

5.1.1 The Contractor shall designate a Project Manager with the responsibilities to coordinate, execute, and manage the Contractor's project management activities for the Contract. The Contractor's Project Manager shall have the total responsibility for all works required under the Contract.

5.1.2 The Contractor's Project Manager shall be the primary point of contact between the Contractor and the DND Technical Authority and the PWGSC Contracting Authority for all issues related to the Contract.

5.2 Project Management Plan (PMP)

5.2.1 The Contractor shall prepare, deliver, maintain and update a Project Management Plan (PMP) IAW CDRL TLB-PM-001 at Appendix 2 to ANNEX A and it's associated DID TLB-PM-001 at Appendix 1 to ANNEX A.

5.3 Project Meetings

5.3.1 Meeting Organization and Coordination

5.3.1.1 The Contractor shall ensure that data, personnel and facilities are available for each meeting.

5.3.1.2 As appropriate, meetings may be held at the Contractor or DND facilities at the discretion of the TA.

5.3.1.3 The Contractor's Project Manager shall be present at all meetings. If the Project Manager does not have final approval authority for decision making and changes, then the person that has that final approval authority shall also be present at all meetings.

5.3.2 Kick-off Meeting

5.3.2.1 The Contractor shall host a Kick-off Meeting (at the Contractor's facility) no later than twenty-one (21) calendar days after contract award to review and secure a common understanding of the requirements expressed in the following:

5.3.2.1.1 The Contract;

5.3.2.1.2 SOW;

5.3.2.1.3 TLB Suit sizing name convention;

5.3.2.1.4 Draft Project Management Plan, and

5.3.2.1.5 Any other contractual or programmatic issues associated with the project as agreed between the TA, CA and the Contractor.

5.3.3 Other meetings

5.3.3.1 The Contractor and/or the TA may schedule informal reviews, such as teleconferences, video conferences, briefings and technical interchange meetings, as required to help achieve the requirements of the Contract.

5.3.3.2 The Contractor shall formally submit all items that could have a contractual impact as they arise.

5.3.4 Meeting Documentation

5.3.4.1 The Contractor shall prepare and deliver a meeting agenda for all meetings, and the meeting minutes afterwards.

5.3.4.1.1 The Contractor shall prepare meeting agendas IAW CDRL TLB-PM-002 at Appendix 2 to ANNEX A and it's associated DID TLB-PM-002 at Appendix 1 to ANNEX A.

5.3.4.1.2 The Contractor shall record, prepare, and deliver the minutes of each meeting IAW CDRL TLB-PM-003 at Appendix 2 to ANNEX A and its associated DID TLB-PM-003 at Appendix 1 to ANNEX A.

5.3.4.2 No change in the interpretation of the Project, SOW, cost, or schedule, as defined in the Contract, may be authorized by the minutes of a meeting. Such action shall require formal Contract amendment by the CA.

6.0 Integrated Logistics Support (ILS)

6.1 Technical Publication Package

6.1.1 The Contractor shall prepare and deliver a Technical Publication package for the TLB Suit comprising of:

6.1.2 Operator Manual

6.1.2.1 The Contractor shall deliver the Operator Manual with each TLB Suit IAW CDRL TLB-ILS-201 at Appendix 2 and its associated DID TLB-ILS-201 at Appendix 1 to this Annex A.

6.1.3 Initial Training Package

6.1.3.1 The Contractor shall provide an Initial Training Package IAW CDRL TLB-ILS-202 at Appendix 2 and its associated DID TLB-ILS-202 at Appendix 1 to Annex A with location in Canada.

6.1.4 The Contractor shall deliver all Technical Publications in English and Canadian French.

6.1.5 The Contractor shall have all Technical Publication text translated by certified translators, such as members of an authorized provincial association of translators, to ensure the quality of translated text.

6.1.6 The Contractor shall ensure all translations are consistent with approved DND terminology. Approved terminology sources, in order of priority, are as follows:

6.1.6.1 Concise Oxford Dictionary (for English);

6.1.6.2 Petit Robert (for French);

6.1.6.3 Termium, PWGSC Translation Bureau Linguistic Data Bank (http://www.termiumplus.gc.ca/); and

6.1.6.4 Any other available source approved by DND.

6.2 Provisioning Documentation

6.2.1 The Contractor shall prepare and deliver Provisioning Documentation for the TLB Suit system comprising of:

6.2.2 Interim Spares List

6.2.2.1 The Contractor shall deliver an Interim Spare Parts List IAW CDRL TLB-ILS-203 at Appendix 2 and its associated DID TLB-ILS-203 at Appendix 1 to this ANNEX A.

6.2.3 Recommended Spare Parts List

6.2.3.1 The Contractor shall deliver a Recommended Spare Parts List IAW CDRL TLB-ILS-204 at Appendix 2 and its associated DID TLB-ILS-204 at Appendix 1 to this ANNEX A.

6.2.4 Supplementary Provisioning Technical Documentation

6.2.4.1 The Contractor shall deliver Supplementary Provisioning Technical Documentation for all TLB Suit parts included in Recommended Spare Parts List IAW CDRL TLB-ILS-206 at Appendix 2 and its associated DID TLB-ILS-206 at Appendix 1 to this ANNEX A.

6.3 Initial Training Session

6.3.1 The Contractor shall provide Initial Training Session after delivery of the first TLB Suit.

6.3.2 The Initial Training Session shall consist of 1 serial, with up to 10 students, to be conducted in Canada.

6.3.3 The training session shall be no longer than one (1) day.

6.3.4 The Contractor shall deliver the training session in:

6.3.4.1 English, with the capability to answer questions and elaborate points in-class in either official language; or

6.3.4.2 French with the capability to answer questions and elaborate points in-class in either official language.

6.3.5 The Contractor shall provide all the materials required for training, including all course material and handouts.

6.3.6 The Contractor shall use the approved Initial Training Package.

6.3.7 The Contractor's trainer(s) shall be Subject Matter Expert(s) (SME) on the equipment taught during the training. The trainers shall have technical awareness in EOD, explosive blast and fragmentation effects.

6.4 Identification Plates

6.4.1 The Contractor shall provide all required Identification Plates IAW CDRL TLB-ILS-205 at Appendix 2 and its associated DID TLB-ILS-205 at Appendix 1 to this Annex A.

6.4.2 The Contractor shall attach Identification Plates to the following components for ease of tracking within the Canadian Forces Supply System:

6.4.2.1 Prime Equipment;

6.4.2.2 Spares;

6.4.2.3 Training Equipment.

6.5 Instruments, Decals, Data Plates and Warnings

6.5.1 All instruments, decals and data plates shall be marked in metric units. Where international symbols are not possible, bilingual markings in English and Canadian French are required. Warning and precautionary data plates shall be provided in both official languages of Canada (English and Canadian French) where necessary to protect personnel and equipment.

6.6 Packaging, Labels and Codes

6.6.1 All parts and equipment supplied by the Contractor to DND, except the Interim Spares from 6.2.2, shall be packaged as per D-LM-008-001/SF-001 following:

6.6.1.1 Level B Limited Military Package;

6.6.1.2 Level B Limited Military Pack;

6.6.2 Packaging produced under 6.6.1 above shall be labeled as per D-LM-008-002/SF-001, using D-LM-008-011/SF-001 to prepare the required packaging and preservation codes.

6.6.2.1 The Contractor shall provide copies of the labels produced under 6.6.2 IAW CDRL TLB-ILS-207 at Appendix 2 to Annex A, and its associated DID TLB-ILS-207 at Appendix 1 to Annex A for review and approval prior to their production and use.

6.6.2.2 The Contractor shall provide a list of all Packaging Codes resolved under 6.6.2 above IAW CDRL TLB-ILS-207 at Appendix 2 to Annex A, and its associated DID TLB-ILS-207 at Appendix 1 to Annex A.

6.7 Top Level Assembly Drawing

6.7.1 A (hardcopy and softcopy) Assembly drawing (IAW section 7.4 of D-01-400-001/SG-000 and DID TLB-ILS-206) of the TLB Suit and its major components, complete with dimensions and title block shall be provided at the end of the Kick-off meeting.

TECHNICAL BID EVALUATION

FOR THE

TACTICAL LIGHTWEIGHT BOMB SUIT

Table of Contents

Proposal Evaluation and Selection Process For The Tactical Lightweight Bomb Suit (TLB Suit)

1. General

1.1. Introduction

This document defines the criteria that will be used to determine the winning bid for the procurement of the TLB Suit.

It contains a description of the evaluation process, identifies all the mandatory requirements and the Evaluation Trial tests and items to be evaluated, and defines the required information from the bidders for their proposal to be evaluated.

1.2. Bid Selection Methodology

It is Canada's desire to achieve an optimal capability at an expense of lowest possible cost. Therefore, a "Lowest Cost Compliant" approach will be employed for this acquisition process. All valid proposals will be evaluated against mandatory criteria based on trial results and Bidder's supplied information to determine technical compliances.

Selection of the winning proposal will be based on the proposed lowest cost provided that the proposal meets all mandatory requirements and confirms compliances with key technical & performance requirements, detailed in Appendixes 1 and 2 of this Annex C.

2. Bid Evaluation

2.1. Responding to Evaluation Criteria

For each listed requirement, the bidder shall provide a response in the Bidder's Response/References" column in Appendix 1 to clearly explain how the requirement is met, either by including the specific reference to indicate where in their proposal the information is found or including the complete response directly in that column.

Bidders shall provide the information required for each listed requirement in accordance with the method identified in the "Compliance Documentation Required" column of Appendix 1 to Annex C.

2.2. Compliance Method

The following compliance methods, as indicated in the "Compliance Documentation Required" column of Appendix 1, define the information required from the bidders against each requirement:

a) Test Report (TR) - Where "Test Report" is identified in the "Compliance Documentation Required" column, the bidder shall provide a completed and detailed Test Report, including test procedures, data and results, for tests conducted on the equipment offered, to confirm it fully complies with the requirement.

b) Recognized 3rd Party Test Report (3TR) - Where "Recognized 3rd Party Test Report" is identified in the "Compliance Documentation Required" column, the

bidder shall provide a completed and detailed Test Report using test data and results provided by a recognized 3rd party testing facility, including test procedures, for tests conducted on the equipment offered to confirm it fully complies with the requirement.

c) Compliance Statement (CS) - Where "Compliance Statement" is identified in the "Compliance Documentation Required" column, the Bidder shall describe in detail how the equipment offered fully complies with the requirement. Supporting documentation is requested but not essential.

3. Evaluation of Compliances

3.1. Phase 1: Evaluation of Criteria

Stage 1 – Mandatory Criteria Evaluation; see Appendix 1 for more details.

The evaluation team will use the bidder's submitted proposal to determine compliance against mandatory requirements.

3.2. Phase 2: Evaluation Trial

In this phase an evaluation trial will be conducted:

Test – Evaluation Trial; see Appendix 2 for more details.

The full ensemble will be fitted to subjects who are experienced EOD operators to determine fitting and other attributes identified for evaluation.

Appendix 1: MANDATORY REQUIREMENTS

Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
Annex A – Para 3.1.1.1	The TLB Suit requirement shall be assembled using production components from a current production line and that are not prototypes or pre-production models.	CS			
Annex A – Para 3.1.2.5	The design of the TLB Suit shall be guided by the content of STANAG 2911 - Design Criteria for Fragmentation Protective Body Armour.	CS			
Annex A – Para 3.2.2.1.1	The TLB suit shall be compatible with the in-service CG634 helmets: 1) small: NSN 8470-21-912-7604; 2) medium: NSN 8470-21-912-7605; and 3) large: NSN 8470-21-912-7606.	CS			
Annex A – Para 3.2.2.1.2	The TLB suit shall be compatible with the in-service fragmentation protective vest: 1) x-small/short: NSN 8470-21-921-3064; and 2) x-small/regular: NSN 8470-21-921-3065; and 3) small/short: NSN 8470-21-921-3067; and 4) small/regular: NSN 8470-21-921-3068; and	CS			

Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
	5) small/tall: NSN 8470-21-921-3069; and 6) medium/short: NSN 8470-21-921-3070; and 7) medium/regular: NSN 8470-21-921-3071; and 8) medium/tall: NSN 8470-21-921-3072; and 9) large/short: NSN 8470-21-921-3073; and 10) large/regular: NSN 8470-21-921-3075; and 11) large/tall: NSN 8470-21-921-3079.				
Annex A – Para 3.2.2.1.3	The TLB suit shall be compatible with the in-service bullet resistant plates: 1) NSN 8470-21-921-3223.	CS			
Annex A – Para 3.2.2.1.4	The TLB suit shall be compatible with the in-service CF combat boots: NSN 8430-21-872-4291.	CS			
Annex A – Para 3.2.6.1	The Ballistic Helmet Visor shall be compatible with the in-service CG634 helmet (para 3.2.2.1.1).	CS			
3.2.10	Chest and Groin Protection (requested through Option quantities) Chest and Groin Protection shall integrate with the other components of the TLB Suit. Chest and Groin Protection shall provide blast	CS			

Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
	overpressure and fragmentation protection to the chest, abdomen and groin.				
Annex A – Para 3.3.1.1, 3.3.1.2, and 3.3.1.3	The TLB Suit shall be provided in at least the following three (3) size ranges, and within each size range, have at least three (3) sub-size ranges (additional size ranges and sub-size ranges will be considered so long as the final TLB Suit quantity is maintained); Size Ranges Size 1 shall support a waist size range between 76 to 82 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below. Size 2 shall support a waist size range between 86 to 92 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below. Size 3 shall support a waist size range between 96 to 102 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below. Height Range The short, medium and tall sub-sizes shall cover at least the height range between 162 cm and 188 cm tall.	CS			

Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
Annex A – Para 3.3.2	Weight The TLB Suits fitting size ranges 1, 2 and 3 shall not exceed 14 kg (approx. 31 lbs) excluding the Ballistic Helmet Visor and Chest and Groin Protection. The Ballistic Helmet Visor shall not exceed 2 kg (approx. 4.4 lbs). The Chest and Groin Protection shall not exceed 6 kg (approx. 13.2 lbs) in any size.	CS			
Annex A – Para 3.4.1.2	Blast overpressure The TLB Suit, along with Chest and Groin Protection, test results shall indicate the overpressure protection provided by the TLB suit to the EOD operator for multiple quantities of explosive at different proximities. The TLB Suit, along with the Chest and Groin Protection, test results shall correlate lethality/survivability data with pressure-duration characteristics of the free-field blast. The TLB Suit, along with the Chest and Groin Protection, shall have a fifty percent (50%) or greater survivability, to the EOD operator wearing the TLB Suit,	3TR			

Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
	from blast overpressure as compared to an unprotected EOD operator. The TLB Suit, along with the Chest and Groin Protection, test plan(s) shall follow parameters as outlined in Test Methodologies for Personal Protective Equipment Against Anti-Personnel Mine Blast Technical Report TR-HFM-089, specifically: a) Explosive Mass and Type – Minimum 100g of C4, or equivalent. b) Depth of Burial – Between flush buried (0mm) and 20mm depth (top of container to soil surface). c) Explosive test charge distance – No more than 1m radial distance from mannequin upper body region.				

Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
Annex A – Para 3.4.1.3.1	Fragmentation The TLB suit shall meet MIL-STD-662F using the .22 Cal. projectile as specified in MIL-P-46593A or STANAG 2920 using the NATO 17 grain chisel nose Fragment Simulating Projectile (FSP), for the different body zones (All test results shall be based on a minimum n=3 for all tests, where n is number of trials): 1) The TLB suit shall meet or exceed protection of Neck (front): V50 570 m/s. 2) The TLB suit shall meet or exceed protection of Shoulder: V50 550 m/s. 3) The TLB suit shall meet or exceed protection of Arms: V50 425 m/s. 4) The TLB suit shall meet or exceed protection of Legs (front incl. groin): V50 425 m/s. 5) The TLB suit shall meet or exceed protection of Legs (rear): V50 225 m/s. 6) The TLB suit shall meet or exceed protection of Knees: V50 500 m/s. 7) The TLB suit shall meet or exceed protection of Visor: V50 400 m/s. 8) The Chest and Groin Protection shall meet or exceed protection of chest: V50 1600 m/s, and groin: V50 1400m/s	TR			

Appendix 2: EVALUATION TRIAL

1 INTRODUCTION

1.1 This appendix sets out the requirements for the Phase 2 Evaluation Trial.

1.2 The aim of the Evaluation Trial is to assess the performance of submitted samples against the requirements identified in Section 3.0 of Annex A.

1.3 The Evaluation Trial will be conducted at CFB Gagetown or some other appropriate venue in Canada, under the supervision of DND.

2 REQUIRED PREPARATIONS

2.1 All bids screened at Phase 1 as compliant will advance to Phase 2.

2.2 The DND Project Manager is responsible for the provision of the three (3) subjects who will be qualified EOD Operators of the requisite sizes (one in each size range) to act as trial subjects.

2.3 The bidders are responsible for delivery of three (3) complete samples of proposed TLB Suits (Annex A, Section 3.2.1, but not including optional Chest and Groin Protection), **all at no cost to Canada**, one in each of the three sizing configurations, and covering the three height ranges, as well as any additional samples to account for potential overlap between subject sizes, to ensure the samples are sufficient to provide three (3) complete, TLB Suits, one (1) fitted to each subject.

2.3.1 Condition of samples of proposed TLB Suits: The samples that are supplied shall be pristine and shall not be pre-conditioned in any way, to enhance user comfort or reduce the stiffness of a new product.

2.3.2 Bidders not capable of providing three (3) complete suits, one (1) fitted to each subject, by the end of the fitting and training period (see para. 5) will be deemed non-compliant and the samples returned.

2.3.3 Any extra samples not required after the fitting of the three (3) subjects should be taken away by the bidder.

2.3.4 Bidder should note that DND will be returning the three (3) complete samples that are fitted to the participants once used in the trial.

2.4 The bidders are responsible for providing no more than three (3) Field Service Representatives (FSR) for a one (1) day training and fitting period at CFB Gagetown, or some other appropriate venue in Canada, in order to:

a. Properly break-out the equipment from the packaging;

b. Size and fit the subjects; and

c. Provide instruction in the correct use of the samples.

3 TRIAL PERSONNEL

3.1 The trials team will include:

3.1.1 DND Project Trial Officer(s).

3.1.2 Up to two (2) trial team Leaders.

3.1.3 Additional assistance to set up and monitor the trials will be provided by the DND Project Manager as required.

4 SUBJECTS

4.1 Subjects will be drawn from experienced EOD operators.

4.2 Subjects will be medically screened and briefed on informed consent prior to the start of the trials.

5 TRAINING AND FITTING PERIOD

5.1 All three (3) subjects will be required.

5.2 The Bidders will each be allowed one (1) day for breakout of equipment, fitting subjects, training on donning and doffing, and preparation for screening tests in trial.

5.3 The training and fitting period will begin no earlier than 9:00AM and conclude no later than 5:00PM local time.

6 SCREENING TEST: EVALUATION TRIAL

6.1 All three (3) subjects will be required.

6.2 Anthropometrics of subjects will be documented.

6.3 Equipment will be donned in layers and photographed.

6.4 Equipment fit, sizing, and functionality will be assessed against the “List of Standard Integration / Protection Problems” (Table 1) by the entire test team upon completion of the activity routine (listed in Table 2).

6.4.1 66 % pass rate for each row in table 1 (i.e. 2 out of 3 subjects), then 5 out 6 rows overall will be required to consider the TLB Suit as compliant.

Table 1: TLB - List of Standard Integration / Protection Problems						
#	ISSUE	CONSEQUENCE	Overall PASS/FAIL (5 out of 6 required to pass)			
			Subjects			2 out of 3 PASS/FAIL
			1 P/F	2 P/F	3 P/F	
1.	TLB Suit does not integrate with helmet	TLB Suit not compatible with in-service equipment				
2.	TLB Suit does not integrate with fragmentation protective vest	TLB Suit not compatible with in-service equipment				
3.	TLB Suit does not integrate with in-service CF combat boots	TLB Suit not compatible with in-service equipment				
4.	Ballistic Helmet Visor does not fit helmet	Adequate face protection would not be possible				
5.	Ballistic Helmet Visor-Neck/Shoulder Protection interference	Limited head mobility/ Discomfort				
6.	Unable to complete activity routine due to restrictions caused by TLB Suit	Suit inadequate for EOD operator tasks				

Table 2: Activity Routine – Evaluation Trial	
Activity Number	**Activity**
1	Don the TLB Suit unassisted in less than 10 minutes.
2	Flexibility test involving the following: 1) crouching 2) kneeling 3) stand from kneeling position 4) arm movement
3	Walk forward a distance of 100 meters (approx. 328 feet).
4	Crawl a distance of at least 10 meters (approx. 33 feet).
5	Run a distance of 50 meters (approx. 164 feet).
6	Ascend stairs a height of 10 meters (approx. 33 feet).
7	Descend stairs a height of 10 meters (approx. 33 feet).
8	Climb a ladder and mount a platform.
9	Walk to other end of platform and back then descend ladder.
10	Doff the TLB Suit unassisted in less than 10 minutes.

7 ASSESSMENT

7.1 Results of all tests on each bidder's system will be compiled and assessed by Technical Staff: DND Project Trials Officer(s) and Trial Team Leaders. Non-compliance will be indicated as follows:

7.1.1 Issues that would cause major breaches in protection.

7.1.2 Integration issues that would require modification of the system or overly limit the operator's capabilities on-task.