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

Land Projects and Communication System Support Division/Div des projets terrestres et support de systèmes de communication
11 Laurier St. / 11, rue Laurier
8C2, Place du Portage, Phase III
Gatineau
Québec
K1A 0S5

Title - Sujet ISSP - PEIS	
Solicitation No. - N° de l'invitation W8476-120002/A	**Amendment No. - N° modif.** 001
Client Reference No. - N° de référence du client W8476-120002	**Date** 2013-02-26
GETS Reference No. - N° de référence de SEAG PW-$$RA-004-23574	
File No. - N° de dossier 004ra.W8476-120002	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2013-03-27**	**Time Zone** **Fuseau horaire** Eastern Standard Time EST
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Juteau, Bernard	**Buyer Id - Id de l'acheteur** 004ra
Telephone No. - N° de téléphone (819) 956-0532 ( )	**FAX No. - N° de FAX** ( ) -
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**	

This Letter of Interest (LOI) amendment 001 is to distribute amendments to Volume 1, Module C - Technical and Managerial Requirements, Annexes CB and CC as follows:

- New attachment 2 to appendix 2 to annex CB to volume 1, UAPE Preparation Instructions;
- New enclosure 1 to attachment 2 to appendix 2 to annex CB to volume 1, UAPE stage 1 - Test Stand - System GUI (Intuitivity);
- New enclosure 2 to attachment 2 to appendix 2 to annex CB to volume 1, UAPE stage 2 - Bidder Led Training Stand;
- New enclosure 3 to attachment 2 to appendix 2 to annex CB to volume 1, UAPE stage 3 - Bidder Assisted Test Stands;
- New enclosure 4 to attachment 2 to appendix 2 to annex CB to volume 1, UAPE stage 4 - Dynamic Test Stand; and
- New appendix 4, to annex CC to volume 1, UAPE compliance matrix.

ALL OTHER TERMS AND CONDITIONS OF THE LETTER OF INTEREST REMAIN UNCHANGED

APPENDIX 2 TO ANNEX CB TO VOLUME 1

ISS-A
Performance Evaluation (PE) Preparation Instructions

This appendix provides bidders with instructions on how to prepare their proposal "Section II - Performance Evaluation".

TABLE OF CONTENTS

1. GENERAL 2
2. OVERALL CONCEPT 2
3. CONDUCT OF PE 2
4. DELIVERY AND AUDIT OF BID SYSTEMS 5
5. ACCESS 5
6. ADMINISTRATION 6
7. SAFETY 7
8. KEY APPOINTMENTS 7

1. General

1.1 As part of the overall RFP evaluation process, the Bidder's proposed P(Bid) system will undergo two practical performance evaluations: a P (Bid) Evaluation and a User Acceptance Performance Evaluation (UAPE). The details of the evaluations can be found in the Bid Preparation Instructions at RFP Attachments 1 and 2 to Appendix 2 to Annex CB to Volume 1.

2. Overall Concept

2.1. The PE provides an opportunity for Bidders to physically demonstrate the capabilities of their system. The P(Bid) Evaluation focuses on selected technical requirements that are best evaluated through a practical demonstration of capability. The UAPE focuses on selected human factors technical requirements that are best evaluated through a hands-on physical evaluation by a representative population of users under controlled scientific conditions. The combined evaluations also enables Canada to assess the technical level of risk associated with achieving full qualification of the proposed system within the proposed schedule and budget.

3. Conduct of PE

3.1 Phases. The PE is broken into four distinct phases: Phase 1- Delivery and Audit of Bid Systems, Phase 2 - The Prototype Bid Evaluation (P(Bid) Eval), Phase 3 -The User Acceptance Performance Evaluation (UAPE) and Phase 4 –Bid Systems Retention / Return.

3.2 Order of Presentation. Following bid closure, Bidders will be randomly selected to determine their order of presentation. However, to ensure no Bidder receives an advantage by having additional time to develop their system, all Bidders must deliver their P (Bid) systems prior to the start of the PE, where they will be placed in quarantine until required for evaluation.

3.3 Bid Systems.

3.3.1 Bidders are to meet the following requirements:

3.3.1.1 The Bidder must deliver ten (10) proposed ISS-S systems (referred to as the P (Bid) System) excluding the DAGR Interface Cables, the CORAL-CR-C Interface Cables and the LCSS Radio Interface Cable Sets. The P(Bid) Systems delivered should match the Equipment Breakdown Structure (EBS) except for the exclusions noted above found in Volume 2 Annex CC Appendix 2;

3.3.1.2 The Bidder must deliver twenty-four (24) MLCS Platforms - twelve (12) of small size and twelve (12) of medium size;

3.3.1.3 The Bidder must deliver twelve (12) sets of MLCS ISS pouches;

3.3.1.4 The Bidder should deliver three (3) complete inventory list of all equipment supplied containing applicable serial numbers and software versions;

3.3.1.5 The Bidder must deliver one (1) proposed SEP-Suite software on a CD/DVD;

3.3.1.6 The Bidder must deliver one laptop with the SEP-Suite software installed, and all hardware that is required by the SEP-Suite to configure the ISS-S;

3.3.1.7 The Bidder should deliver one copy of the Equipment Breakdown Structure (EBS), prepared in accordance with DID CM-005 found in Volume 2 Annex CC Appendix 2, which represents the above P(Bid) system;

3.3.1.8 The Bidder should deliver the proposed P(Bid) systems in a single container or series of lockable containers which should be clearly identified by company name; and

3.3.1.9 The Bidder must deliver the P(BID) to the designated Canadian Forces Base on the date and location stated in the PE invitation in accordance with article 2.6.4 of Volume 1, Invitations to PE activities.

3.3.2 For the purpose of the Performance Evaluation (PE), the MLCS' main fabric, binding tapes, webbing and all other MLCS materials must be submitted in monochrome colour Coyote Brown or a close visual match to Coyote Brown. The elastics and polyester mesh can be submitted in black instead of the aforementioned colours if so desired. Furthermore, for the purpose of the Performance Evaluation (PE) the 1000 denier Cordura must be a commercially available cloth in accordance with Mil-C-43734D Class 3.

3.4 Order of Events. The Bidder must be prepared to participate in all four phases of the PE as described below:

3.4.1 Phase 1 – Delivery and Audit of Bid Systems

Bidders will be informed as per Article 2.6.4 of Volume 1 as to the timings and location for the delivery and audit of their Bid Systems. The bid systems should arrive in lockable container such that at the end of Phase 1 they will be locked by the Bidder and held by the PE staff in a secure facility until Phase 2. This process will take approximately five (5) hours; and

Bidders will be informed as per Article 2.6.4 of Volume 1 as to the timings and location of the Bidder's coordination meeting. This process will take approximately two (2) hours and will provide guidance on timing for the coming P(Bid) Eval and UAPE.

3.4.2 Phase 2 – P(Bid) Eval.

Bidders will be informed as per Article 2.6.4 of Volume 1 as to the timings and location for the P (Bid) Eval. The conduct of the P (Bid) Eval can be found at Attachment 1 to Appendix 2 to Annex CB. An allowance has been made for drawing and systems check prior to the conduct of the evaluation. During the P (Bid) Eval, the Bidder will be asked to present and demonstrate to the ISSP Technical Evaluation Team how their system meets a given number of P (Bid) Eval requirements as per Appendix 3 to Annex CC**.** The duration is approximately a full working day.

3.4.3 Phase 3 – UAPE.

3.4.3.1 Bidders will be informed as per Article 2.6.4 of Volume 1 as to the timings and location for the UAPE. Each Bid system will be evaluated over a period of 4 weeks;

3.4.3.2 During the conduct of the UAPE, experienced Canadian Forces soldiers (referred to as Evaluation Soldiers) will evaluate each system in a series of controlled operational scenarios and their assessments will contribute to bid selection. The UAPE will be progressive in nature, conducted first in a classroom and then moving to the field to conduct missions both during the day and night under any weather condition;

3.4.3.3 For scientific rigor each bid system will be evaluated four times by four different groups of soldiers. An evaluation period will be one week duration over the same UAPE test stands (four Performance Evaluation Sections x five days = four weeks);

3.4.3.4 Bidders will be required to provide training and mentoring during each UAPE block in accordance with volume 1 Annex CB Appendix 2 Attachment 2.

3.4.3.5 The objective of the UAPE is for users to evaluate the performance of each system and not the availability of the bid systems. As such the protocols listed below will be used to compensate for bid systems down time; and

3.4.3.6 Bidders will be required to have a technician readily available to repair their P(Bid) system, as required, during scheduled UAPE stands. The Crown is under no obligation to telephone or search for technicians.

3.4.4 Phase 4 – Bid System Return / Retention.

At the completion of the UAPE, Bidders will be required to assume custody of their bid systems/assets. One ISS-S per Bidder as well as the SEP-Suite software on a CD/DVD and all hardware (excluding the laptop with the SEP-Suite software installed) that is required by the SEP-Suite to configure the ISS-S will be retained by the Crown until Contract Award for the purpose of configuration control.

3.5 Radio Frequencies. Bidder will receive their assigned radio frequencies prior to participation in the P (Bid) Evaluation or UAPE.

3.6 Consumables and Spare Parts. Bidders are to come prepared with sufficient consumables (i.e. power sources), Line Replacement Units (LRUs), spare parts and testing equipment for the duration of the PE. Consumables are not to be turned in during the Phase 1 and will not be stored by PE staff.

4. Delivery and Audit of Bid Systems

4.1 Delivery. Bidders will deliver their P(Bid) Systems to the designated facility at the time specified. Systems should be delivered in a single container or series of lockable containers which should be clearly identified. Identification should include the Bidder's distinct identifier and a numeric identifier i.e. SMITH INDUSTRIES '1 of 3' on each container.

4.2 Inventory Audit. Based on the Bidder's inventory list from Section 3.3, the proposed ISS-S Systems will undergo an inventory check/audit against the serial numbers. The systems will be physically inspected for visible damage, and may be photographed.

4.3 Storage. The systems will be packed in their storage containers by the Bidder and then locked in a storage facility by DND.

4.4 Additional Item Storage. Bidders may request storage of additional locked containers of spares and power sources as part of their total package, subject to the availability of storage capacity.

4.5 Storage Access Control. Access to the storage facility and P (Bid) Systems will be controlled. Access will be pre-arranged and notified to Bidders in support of their participation in the PE schedule. For additional access, Bidders should contact the Evaluation Controlling Officer (EC O).

5. Access

5.1 Participants. Each Bidder will be limited to a maximum of six (6) personnel in the PE camp at any one time

5.2 Control. Access during the PE will be strictly controlled.

5.3 Access Requests. DND will manage all access requests to the Canadian Forces Base selected for the PE. Bidders must provide a list of personnel who require access to the PE site to the Evaluation Controlling Officer (EC O) on the day of the delivery and audit of their P(Bid) Systems. The following information is to be provided:

a) The full name of each Bidder representative,

b) Contact phone, pager, or cell phone;

c) Role of representative in support of the PE; and

d) Vehicle particulars.

5.4 Visitors and VIPs. To ensure that participant opinions and insights are uniquely their own, sources of potential bias and unintentional influence will be controlled. While most sources of bias and influence are benign and unintentional, their impact on participant opinions and state of mind during the trial may have an effect and will be controlled to ensure valid and reliable results. Bidders will not be authorized to bring visitors or VIPs to any portion of the PE.

6. Administration

6.1 Transportation. Bidders will be responsible for their own transportation requirements. As road conditions may be poor, 4x4 vehicles are recommended.

6.2 Accommodations. Bidders will be required to provide their own accommodations.

6.3 Meals. Bidders will be provided lunchtime meals during the P(Bid) Eval and Stages 1,2 and 3 of the UAPE however, the Crown will not be capable of providing meals that account for dietary restrictions. In all other instances, Bidders are to come prepared with sufficient food and water for each day of testing. Once testing commences daily, Bidders may not have sufficient time to depart until the end of the testing day.

6.4 Weather. Bidders are to come prepared for long hours in the outdoors, un-groomed terrain and variable weather. Each evaluation test day will continue until all scheduled items have been completed. In the unlikely circumstances that the PE is delayed as a result of weather, Bidders will be required to remain for the number of days required to recoup the missed portions of the evaluation.

6.5 Communications. Bid participants will be permitted to use cell phones. Access to cellular telephone coverage cannot be guaranteed.

6.6 Workspace. Bidder will not be provided with an indoor workspace in the PE Camp. Each Bid team will be assigned a roped off area of approximately 10 meters x 10 meters to park vehicles, equipment, trailers and to conduct maintenance.

6.7 Language. PE will be conducted in English; therefore all material, information, training and GUIs must be presented in English.

6.8 Daily Routine and Schedule. The schedule of PE activities will be set by the Crown, changes to the schedule will only occur in response to technical or availability issues of Crown owned equipment

or facilities, time to complete test stands in stage 3 or 4 or weather as noted above in para 6.4. With respect to the UAPE the daily end time for activities are estimated. Bidders should be prepared to continue participation until the daily objectives have been met.

7. Safety

7.1 Range Safety Briefing. Upon arrival at the test site each day all Bidders are required to obtain a General Safety Briefing. Safety and environmental protection are of high priority for the Department of National Defence and Range Safety Orders must be followed. The briefing will cover items such as the weather, communications, areas that are out of bounds and range safety.

8. Key Appointments

8.1. The following personnel will be involved with the key aspects of the PE.

8.1.1 Evaluation Controlling Officer (EC O). Responsible for the logistics and control of the PE camp, the EC O is the main point of contact for Bidders.

8.1.2 Officer In Charge Performance Evaluation (OIC PE) - HF Advisor. Responsible for the overall conduct of the PE as well as being the scientific authority for the UAPE. The Human Factors Testing Staff, who are responsible for the gathering/analyzing the data collected during the UAPE, report to the OIC PE;

8.1.3 Systems Engineering Manager (SEM). Responsible for the delivery and audit of the ISS P(Bid) Systems and for the evaluation of the P(Bid) Eval.;

8.1.4 Land Staff Liaison Officer. Responsible to provide liaison between the Supporting Base, the Army and the PE Staff.

ATTACHMENT 2
TO APPENDIX 2 TO ANNEX CB TO VOLUME 1

ISS-A
User Acceptance Performance Evaluation (UAPE)
Preparation Instructions

This Attachment advises Bidders on how to prepare their bid for the Section II – ISS-A UAPE Evaluation.

TABLE OF CONTENTS

1. General 2
2. Overall Concept 2
3. Evaluation Soldiers Orientation and Baseline 2
4. Conduct of UAPE 2
5. Protocol Progression 3
6. Evaluation Criteria and Scale 7
7. General Schedule 7
8. Systems Preparation 9
9. UAPE Compliance Matrices 11

1. General

1.1 As part of the overall bid evaluation process, the proposed P(Bid) systems will undergo a User Acceptance Performance Evaluation (UAPE). The scoring criteria and method of rating are contained in the RFP Appendix 4 to Annex CC to Volume 1.

2. Overall Concept

2.1 The UAPE provides an opportunity for Bidders to physically demonstrate the capabilities of their system. It focuses on selected Human Factors (HF) technical requirements that are best evaluated through a hands-on physical evaluation by a representative population of users under controlled scientific conditions. The representative population of experienced Canadian Forces soldiers will be referred to as evaluation soldiers throughout this document.

2.2 Aim - To evaluate the usability and soldier acceptance of candidate P(Bid) systems to contribute to the selection of the winning bid.

2.3 Primary Objective - Determine if the P(Bid) systems meet the minimum HF requirements for soldier acceptability and usability in accordance with the bid evaluation plan, based on the User Acceptance Performance Specification (UAPS).

3. Evaluation Soldiers Orientation and Baseline

3.1 Bid Systems will be evaluated by teams of experienced Canadian Forces soldiers. However, to ensure that Evaluation Soldiers are familiar with the testing protocols, the human factors measurement tools, sources of bias, synchronization of team members, and ultimately the considerations while evaluating a P(Bid) system, soldiers will be given orientation and training for one week prior to the start of UAPE. This will ensure that they have sufficient familiarity with the technological capabilities to be tested, the methods and tools that will be used, and the testing protocols to be employed. Evaluation soldiers will establish an evaluation baseline using in-service equipment (Personal Role Radios (PRRs), DAGR) and techniques as well as a surrogate system such as the Garmin Rino to ensure a minimum competency in operating GUIs and SA/GPS system. Evaluation soldiers will be exposed to all of the test stands laid out in Stage 3 described below while performing the same tasks, activities, and human factors measurements that will be required during the evaluation of candidate P(Bid) systems. Evaluation soldiers will also be tested to confirm that they have all achieved a minimum level of proficiency in the entire test battery. Evaluation soldiers will also be briefed on sources of bias, instructed on ways and means to control these sources, and given direction on how to report a bias concern to the UAPE control staff.

4. Conduct of UAPE

4.1 Bidders will be informed as per Article 2.6.4 of Volume 1 as to the timings and location for the UAPE.

4.2 Each P(Bid) system will be evaluated four times by four different sections of Evaluation Soldiers. The evaluation will be broken into four blocks of one week each, comprised of four stages (four sections x four weeks of four stages).

4.3 Each UAPE block will be progressive in nature, in the following manner:

4.3.1 Determine the intuitiveness of the P(Bid) system;

4.3.2 Educate Evaluation soldiers by providing the time and the environment to Bidders to instruct, demonstrate and train;

4.3.3 Validate evaluation soldiers knowledge of P(Bid) systems with Bidder assisted static test stands; and

4.3.4 Exercise P(Bid) systems in a dynamic operational-like mission test stand.

5. Protocol Progression

5.1 A progressive evaluation protocol will be employed during each UAPE block, consisting of four stages. The UAPE Stages have been designed to progress evaluation soldiers through simple tasks, complex activities, to a full representative mission, using a "walk-before-you-run" philosophy. Progressive testing starts by evaluating discrete, empirical variables, which shapes soldier acceptance and performance. Select military activities and battle task drills follow.

5.2 There are four stages of preparation and progressive testing in each UAPE block.

5.2.1 **Stage 1 – Intuitivity Test Stand.** Demand for interactive soldier products is high. Many different devices have accrued in the Infantry's arsenal so that the time available for learning and using each device is greatly reduced. Ten basic system navigation tasks will be performed on all candidate P(Bid) systems to evaluate the usability of the system GUI by a novice soldier. A focussing questionnaire will be completed by evaluation soldiers at the end of this stage facilitated by the UAPE Human Factors Observers (HFOs) assigned to each evaluation soldiers section. This stand will precede any interaction between Bidders and Evaluation Soldiers. More details on this Test Stand can be found in Volume 1, Annex CB, Appendix 2, Att 2, Encl 1:

5.2.2 **Stage 2 – Bidder Led Training Stand.** Bidder led training will take place at the UAPE Camp both in classrooms and outdoors. Bidders can find the training syllabus that they should teach to in Volume 1 Annex CB Appendix 2 Att 2 Encl 2 under the Bidder Led Training Stand. Bidders are free to enhance the syllabus but should note that they should prepare evaluation soldiers to successfully complete Stages 3 and 4. Bidders will provide concurrence on the evaluation soldiers' set-up of the P(Bid) systems on the Modular Load Carriage System (MLCS) platform to ensure the performance of the system is not jeopardised based on placement. The acceptance of the placement of the P(Bid) systems on the MLCS platform and resulting performance is at the sole risk of the Bidder. More details on this Test Stand can be found in Volume 1, Annex CB, Appendix 2, Att 2, Encl 2:

5.2.3 **Stage 3 – Bidder Assisted Test Stands.** Under the supervision of the UAPE HFOs assigned to each evaluation soldiers section, Bidders are encouraged to participate in Stage 3, to validate and enrich the training provided in Stand 2 and to act as mentors to the evaluation soldiers with P(Bid) systems related problems as they are encountered. Bidders must not offer advice unless solicited by evaluation soldiers. Evaluation Soldiers will be free to ask Bidders for assistance or advice directly or indirectly related to the effective employment of the P(Bid) system. Bidders' input will not interfere with the timely completion of the test stands. If advice provided by Bidders interferes with the schedule they will be warned by the HFOs. A second incident will result in their removal from the remaining portion of Stage 3 as ordered by the UAPE Officer in Charge.

5.2.4 The nature of Stage 3 will afford the evaluation soldiers the time and opportunity to explore the P(Bid) systems fully through performance-oriented operational tasks and activities during discrete test stands. This coupled with the Bidders mentorship during the execution of these discrete test stands will prepare the evaluation soldiers to operate on their own during Stage 4. Focussing questionnaires will be completed by evaluation soldiers on each of the areas indicated below which will be managed by the UAPE HFOs. Bidders will not be present for the administration of the questionnaires and will be asked to go to an administrative location.

5.2.5 Stage 3 introduces a battery of static tests that incorporate military or infantry functions or typical areas of difficulty. More details on Test Stands in their functional groups can be found in Volume 1, Annex CB, Appendix 2, Att 2, Encl 3:

5.2.5.1 System assembly - Evaluation soldiers will assemble / disassemble and attach / detach various system components. Evaluation soldiers will attach connectors and components, undertake system change-outs, a battery change and other LRU items as required by the P(Bid) system;

5.2.5.2 Text Messaging/Reports and Returns/Input Device - Evaluation soldier will transcribe written samples of a Contact Report, SITREP, Call for Fire, CASEVACREQ, EOD, LOCREP, Free Sketch, and Free Text content, while adopting prone and kneeling postures. All evaluation soldiers will perform a series of control activation and adjustment activities on the P(Bid) system. Evaluation soldiers will perform a series of radio interactions (on/off, adjust volume, join a different COI, depress PTT), visual display interactions (orient display for viewing, stow display, adjust brightness), key in text and pointing on the display. All activities will be performed in the kneeling and prone position;

5.2.5.3 Mission Planning – Evaluation soldiers will produce a series of specific plans using the tools included with the P(Bid) system. Evaluation soldiers will plan a navigation route and plan the location of an observation post;

5.2.5.4 Visual Display (day) – Evaluation soldiers will assess visual display usability on the P(Bid) system during indoor and outdoor activities. Evaluation soldiers will view

maps and the GUI environment and will consider the display's resolution, brightness, uniformity, clarity, colour, and readability;

5.2.5.5 Weapons/Clothing/Equipment Compatibility - *Weapons Compatibility*: Evaluation soldiers will perform select weapons dry stand activities wearing the P(Bid) system. Evaluation soldiers will perform select weapons handling and target engagement activities in tactical postures. This is a non-firing activity. *Protective Equipment Compatibility*: Evaluation soldiers will perform select protective equipment dry stand activities wearing the P(Bid) system. Evaluation soldiers will perform select movement and operation activities in a range of postures wearing select items of personal protective equipment (i.e. body armour, helmet, NBC mask, ballistic eyewear). *Handwear Compatibility*: Evaluation soldiers will perform select handwear dry stand activities wearing the P(Bid) system. All Evaluation soldiers will perform select movement and operation activities in a range of postures wearing in-service gloves (i.e. temperate combat glove or light-weight thermal glove). *Other Equipment and Clothing Compatibility*: Evaluation soldiers will perform select dry stand activities for other compatibility items wearing the P(Bid) system. Evaluation soldiers will perform select movement and operation activities in a range of postures wearing select items of other equipment (i.e. PVS-14, Utility Hydration Cover with water bladder, ruck sack and small pack);

5.2.5.6 Target Designation / Hand-off PA/SA - Evaluation soldiers will identify and localize blue-force soldiers and select entities on the P(Bid) system during outdoor training and the outdoor missions. Evaluation soldiers will indicate the locations of team members and other entities by estimating range and bearing from their position. Evaluation soldiers will perform a target designation and hand-off task. Evaluation soldiers will designate the location of a visible entity in the training area on their BMS. They will then transfer the information of the designated entity to a P(Bid) system member in their team;

5.2.5.7 Navigation - Evaluation soldiers will perform a navigational task with a predefined route of multiple waypoints prepared in advance in both day and night conditions. Bidders are not invited to participate in this Test Stand;

5.2.5.8 Detectability - Run in an experiential workshop format. The intent of the workshop will be to allow the evaluation soldiers time to develop Tactics Technique and Procedures (TTPs) with a focus on the employment of the P(Bid) systems during night operations. Evaluation soldiers will have to consider the P(Bid) system's ability to be employed during low light operations and use the newly-developed TTPs to execute their respective night missions during Stage 4;

5.2.5.9 Vehicle /Auditory Display – Evaluation Soldiers will perform select movement and operation activities in a range of postures in a Light Armoured Vehicle (LAV) III

(i.e. seated four at a time in the passenger compartment with all their kit, standing in the family hatch) and G-wagon. Evaluation soldiers will evaluate P(Bid) Systems communications capabilities in wooded and vehicle environments using the LAV III for their usability and audio display capability;

5.2.5.10 Configurability, Fit, and Adjustability - Evaluation soldiers will be required to attempt a proper fit with MLCS wearing the ISS-S. Evaluation soldiers will complete the configurability, fit, and adjustability test stand while wearing the MLCS and the associated P(Bid) System over top of the Gen III Fragmentation Vest with the Combat loads identified in the TPS. Evaluation soldiers will also evaluate the Combat Load Capacity with the MLCS while wearing the ISS-S; and

5.2.5.11 Alerts / Alarms – Evaluation soldiers will be exposed to and required to recognize various visual and auditory alerts and alarms on the P(Bid) System. Evaluation soldiers will be exposed to a range of alerts and alarms to assess detectability, discrimination, and usability for managing the alert/alarm, and compatibility with other soldiering activities.

5.2.6 **Stage 4 – Dynamic Test Stand.** Finally, the Dynamic Test Stand is a high fidelity simulation of a combat mission. The mission focuses on the offensive and defensive roles of the infantry to simulate the intended operational employment of the P(Bid) systems. At this point in the evaluation process evaluation soldiers should be prepared to employ the P(Bid) system without assistance from the Bidders based on the time they have spent learning and applying the functionality of the P(Bid) system during the previous stages. Bidders are not invited to participate in this stage.

5.2.7 To simulate operational-like conditions, evaluation soldiers will conduct force-on-force offensive and defensive operations during the day and night in all weather conditions. Soldiers will deploy for the duration of the Stage 4 without support from the Bidders (this includes all logistics as well as training). The evaluation soldiers' sections will be self-sufficient and will troubleshoot and adapt to issues that arise with the P(Bid) system. The Dynamic Test Stand has a significant duration and fatigue component factor that will add to the realism of the missions. More details on this Test Stand can be found in Volume 1, Annex CB, Appendix 2, Attachment 2, Enclosure 4.

5.2.8 To allow evaluation soldiers to better appreciate their performance from the perspective of the enemy, the missions will be filmed. Prior to completing the final scoring questionnaires, Evaluation Soldiers will review their performance on film. Stage 4's general outline is as follows:

a. Receive orders;
b. Mission preparation and rehearsals;
c. Deploy and conduct mission;
d. Return to field HQ

e. Receive orders;
f. Mission preparation and rehearsals;
g. Deploy and conduct mission;
h. Return to UAPE Camp;
i. Forced rest;
j. Video debrief;
k. Fill-in final scoring questionnaires;
l. Focus Group (monitored); and
m. Final scoring questionnaires completed.

6. Evaluation Criteria and Scale

6.1 The UAPS requirements will be scored by the evaluation soldier at the conclusion of the Dynamic Test stand using a seven point Likert scale for each question on the final scoring questionnaire found at Volume 1, Annex CB, Appendix 2, Att 2, Encl 4. When rendering their decision on each UAPS requirement, they will be considering it against the in-service equipment (the baseline) that was established during the soldier orientation to finally confirm the P(Bid)systems under evaluation for its acceptability and usability for operations.

7. General Schedule

7.1 An overview of a typical UAPE block top level schedule is presented at Table 1:

DAY 1

Time	Stage	Subject	OPI	Remarks
0730-0800	1	Intuitivity TS	HFO	Bidders to have systems prepared NLT 0730
0800-0840	2	Introduction/Description of ISS/System Assembly	Bidder	
0850-0930	2			
0940-1020	2	Configurability, Fit and Adjustability	Bidder	
1030-1110	2	Input devices	Bidder	
1120-1200	2	Visual Display	Bidder	TS 5 is a questionnaire only
1200-1300	2	Lunch	Admin Staff	
1300-1340	2	Audio Display/COI Configuration	Bidder	
1350-1430	2	System GUI	Bidder	Detailed menu navigation
1440-1520				
1530-1700	3	TS and Focus Questionnaires (TS 1, TS 3, TS 5, TS 14, TS 16)	HFO	Bidders may assist TS completion but will not be present when focus questionnaires are filled out.

DAY 2

Time		Subject	OPI	Remarks
0800-0840	2	Text Messaging/Reporting	Bidder	
0850-0930	2	Alarms/Alerts	Bidder	
0940-1020	2	Positional and Situational Awareness	Bidder	Classroom instruction
1030-1200	2	BMS Navigation (day)	Bidder	Outdoor nav practice(TS night of Day 3)
1200-1300		Lunch		
1300-1340	2	BMS Navigation (day)		
1350-1430	2	Planning	Bidder	Simulated Route/OP/Mission Planning
1440-1520	2	Target Designation/Handoff	Bidder	
1530-1610 1620-1700	3	TS and Focus Questionnaires TS 2, TS 4, TS 10, TS 11, TS 17	HFO	Bidders may assist TS completion but will not be present when focus questionnaires are filled out.
1700-1800		Supper		
2000-2050	3	Detectability TS 13	HFO/ Bidder as mentor	TS 13 TTP development questionnaire to be filled out. Bidders may assist in TS completion
2100-2359	2	BMS Navigation (night)	Bidder	Outdoor nav practice

DAY 3

Time		Subject	OPI	Remarks
0800-0840 0850-0930 0940-1020 1030-1110 1120-1200	3	TS and Focus Questionnaires TS 6, TS 7, TS 8, TS 9 and TS 15	HFO/ Bidder as mentor	
1200-1300		Lunch	Admin Staff	
1300-1340 1350-1430 1440-1520 1530-1610		Final bidder maintenance period before Stage 4	Bidder	Forced rest for evaluation soldiers
1620-1700		Bidder's turn in spare LRU's, charged batteries	PE CQ	
1700-1800		Supper	Admin Staff	
1800-2000	3	***BMS Navigation TS 12 (Day)	HFO	Bidders not to take part
2100-2300	3	***BMS Navigation TS 12 (Night)	HFO	Final leg to bring soldiers to

				EX patrol base
2300-	4	Dynamic Test Stand	All Staff	24hr EX ending 2300 Day 4

DAY4

Time		Subject	OPI	Remarks
0001-2300	4	continued Dynamic Test Stand	All Staff	
2300		End Exercise / turn in kit	PE CQ	Forced rest for evaluation soldiers

DAY 5

Time		Subject	OPI	Remarks
0800-0900	4	Post Exercise drills	PE CQ	Bidders can draw their equipment as of 0900 after coordinating timings with the CQMS
0900-1200	4	Video debrief followed by exit questionnaires and focus group/consensus meeting	HF OIC	

*** Bidders are not invited to participate in the 1800-2300 Navigation Test Stand on Day 3

Table 1: UAPE daily activities overview

8. Systems Preparation

8.1 Access to Storage Facility. Bidders will be able to access the P(Bid) systems storage facility two (2) hours prior to the start of Stage 1 in order to ensure their P(Bid) systems are functioning correctly and proceed with their set-up in the classrooms to expedite the commencement of the Intuitivity TS.

8.2 Access to Classrooms. Bidders will have access to their respective classrooms the day prior to the commencement of each UAPE block to set-up training aids. They will also have full access to the classrooms during Stage 2 (UAPE Day 1 (0800 hrs – 1700 hrs); Day 2 (0800 hrs – 2359 hrs)). Bidders are responsible to provide all training material and supporting electronics including light projectors and computers. The classrooms with be equipped with standard 120V electrical receptacles.

8.3 Audit. Bidders will be required to confirm the condition and inventory of their P(Bid) systems prior to removal from the storage facility.

8.4 Daily Routine Maintenance. The Bidder will be responsible to make their P(Bid) systems available to the Performance Evaluation Quartermaster (PE CQ) one hour prior to commencement of each day's activities during Stages 1, 2 and 3. P(Bid) systems must be turned into the PE CQ no later

than 1800 hrs day 3 for the commencement of Stage 4. Additional maintenance considerations can be found at Table 2 below:

Stage	Daily off-site/on-site maintenance (Bidders)	Trouble-shooting (Bidders)	Trouble-shooting (soldiers)	LRUs (Bidders)	Battery charging and/or daily supply(Bidders)	Battery charging (soldiers)
1	N/A	Yes	Yes	N/A	Yes	No
2	Yes	Yes	No	Yes	Yes	No
3	Yes	Yes	Bidders Choice	Yes	Yes	Yes
4	No	No	Yes	Yes – Must be provided to PE CQ on Day 3 of each UAPE block NLT 1800 hrs. PE CQ should be provided sufficient LRUs to allow the soldiers to complete their mission	Yes – Batteries must be provided at the start of Stage 4 only, as per LRU description	No

Table 2: UAPE Daily maintenance expectations

8.5 Communities of Interest (COIs). Bidders will ensure that P(Bid) systems are pre-configured with the following COIs for the Stages as detailed in Table 3 below:

Call Sign	Stages 1, 2 and 3							Stage 4			
	COIs							COIs			
	Section Voice	Section Data	Section PA	Fire team A Voice	Fire team B Voice	Fire team C Voice	Fire team D Voice	Section Voice	Section Data	Section PA	Section Cmd Voice
11A	X	X	X					X	X	X	X
A01	X	X	X	X				X	X	X	
A02	X	X	X	X				X	X	X	
A03	X	X	X		X			X	X	X	
A04	X	X	X		X			X	X	X	

Call Sign	Stages 1, 2 and 3							Stage 4			
	COIs							COIs			
	Section Voice	Section Data	Section PA	Fire team A Voice	Fire team B Voice	Fire team C Voice	Fire team D Voice	Section Voice	Section Data	Section PA	Section Cmd Voice
A05	X	X	X			X		X	X	X	
A06	X	X	X			X		X	X	X	
A07	X	X	X				X	X	X	X	
A08	X	X	X				X	X	X	X	
A11	X	X	X					X	X	X	X

Table 3: UAPE COIs

8.6 Call Signs.

11A – Section Commander
A01 – Rifleman
A02 – Rifleman
A03 – Rifleman
A04 – Rifleman
A05 - Rifleman
A06 - Rifleman
A07 - Rifleman
A08 – Rifleman
A11 – Section Second-in-Command

8.7 Maps. To simulate operational conditions and ensure all P(Bid) systems are assessed equally during the conduct of UAPE, all systems will be operated with the same mapping file. Bidders will ensure that P(Bid) systems are loaded with the following GeoTIFF Map for entire conduct of UAPE: DSSPM Data Files - Evaluation Area Maps: \[PE CFB name]\Images\[map name.tif]. This does not preclude Bidders from providing overlays as long as they can be generated on the SEP-suite or P(Bid) systems. All map information made available to the soldiers during UAPE must be generated using only the map data provided in the DSSPM Data Files – Evaluation Area Maps.

9. UAPE Compliance Matrices

9.1 There are two UAPE Compliance Matrices found at RFP Appendix 4 to Annex CC to Volume 1. Table 3 is the UAPE Mandatory Criteria Compliance Matrix and Table 4 is the UAPE Rated Criteria Compliance Matrix. Both matrices are copies of the UAPS Mandatory and Rated requirements found in RFP Appendix 2 to Annex CB to Volume 2.

9.2 The Compliance Matrices are filled in by Canada.

9.3 The Table 3 - UAPE Mandatory Criteria Compliance Matrix has the following columns:

Column 1: Provides sequential numbering;

Column 2: Provides a unique DOORS identifier code

Column 3: UAPS Functional Groups as well as UAPS Requirements Statements

Column 4: UAPS reference number from Appendix 2 to Annex CB of Volume 2;

Column 5: UAPE Stages

Column 6: Requirement category: (M) Mandatory

Column 7: Specifies the minimum mandatory acceptance level that must be achieved in the final scoring questionnaire for each mandatory UAPS Requirement Statement

Column 8: Final score achieved as reported in the Evaluation Soldiers' final scoring questionnaire

9.4 The Table 4 – UAPE Rated Criteria Compliance Matrix has the following columns:

Column 1: Provides sequential numbering;

Column 2: Provides a unique DOORS identifier code

Column 3: UAPS Functional Groups as well as the UAPS Requirements Statements

Column 4: UAPS reference number from Appendix 2 to Annex CB of Volume 2;

Column 5: UAPE Stages

Column 6: Requirement category: (R) Rated

Column 7: Mean Score: this is the average of the assigned scores from the final scoring questionnaire;

Column 8: Weighting Factor: this adjusts the Mean Score based on the relative importance of the requirement within the UAPS;

Column 9: Max Score: This is the maximum possible score obtained by multiplying the Mean Score by the Weighting Factor.

ENCLOSURE 1 TO ATTACHMENT 2 TO APPENDIX 2 TO ANNEX CB TO VOLUME 1

UAPE Stage 1 Test Stand – System GUI (Intuitivity)

Introduction

The demand for Intuitive soldier products is high. Many different devices have accrued in the Infantry's arsenal so that the time available for learning and using each device is greatly reduced. Ten basic system tasks will be performed on all candidate P(Bid) systems to evaluate the usability of the system Graphic User Interface(GUI) by the evaluation soldier. The root intent of this Test Stand is to determine the usability of the GUI.

Objectives

This test stand will:

- Provide a series of GUI tasks to enable the evaluation soldiers to evaluate candidate P(Bid) systems for their ease and efficiency of system navigation.
- Ensure evaluation soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "System GUI Acceptability" requirement of the user acceptance performance specifications for P(Bid) system GUI operation.
- Collect objective system GUI metrics to ensure participants thoughtfully consider important, underlying aspects of system GUI operations.

System GUI Navigation Tasks

Ten basic system tasks will be performed on all P(Bid) system contenders to evaluate the usability of the system GUI for the novice soldier. Starting from the home screen, participants will attempt to perform each of the tasks. The Human Factors Observer (HFO) will read the task, start the timer, and provide no assistance or guidance to the evaluation soldier. Following completion of each task, evaluation soldiers will navigate back to the home screen. Evaluation soldiers will have a maximum of 60 seconds to perform each task. Should an evaluation soldier fail to complete the task within the 60 second limit, the task will be halted and the evaluation soldier will be asked to return to the home screen in preparation for the next task.

The system tasks will consist of the following tasks:

1. Determine the battery life remaining

2. Navigate to the Quick Reference guide (QRG)
3. Use the QRG to look up instructions on a device function
4. Display a compass and determine north direction
5. Display a map and demonstrate the zoom and pan functions
6. Navigate to the mission planning menu
7. Navigate to the screen to send a contact report*
8. Determine the GPS coordinates of current position
9. Identify a blue force soldier on the display
10. Log off / System shutdown

* evaluation soldiers will only evaluate this capacity if provided by the Bidder

System GUI tasks will assess system GUI performance, system response time, and evaluation soldier acceptance of each candidate P(Bid) system. Evaluation soldiers will be briefed on the purpose of the test, the methods used, the tasks to be performed, all of the criteria to be rated in the questionnaire.

Measures

The following measures will be collected during the experiment to provide a stress factor to simulate the sense of urgency found under operational conditions and to ensure evaluation soldiers are provided feedback on their performance on the subject P(Bid) system through objective measures only.

a. Time to Completion:
The time required to complete each task will be measured with a stop watch by an HFO. A maximum time limit of 60 seconds will be enforced. If the software provides multiple options for achieving the prescribed task end state, the HFO will note the method used.

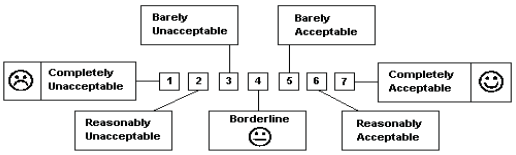
b. Percent Successful Completion:
The number of the tasks successfully completed within the maximum time limit will be noted and the percentage of successful task completion calculated.

c. System GUI Focus Questionnaire:
Evaluation soldiers will complete the following system GUI focus questionnaire on the usability and utility of the P(Bid) system GUI.

SYSTEM GUI NAVIGATION (INTUITIVITY)

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability for the different aspects of usability of the system GUI.



System GUI Usability	Acceptability 1 2 3 4 5 6 7
Ease of Use	○ ○ ○ ○ ○ ○ ○
Ease of Learning	○ ○ ○ ○ ○ ○ ○
Efficiency	○ ○ ○ ○ ○ ○ ○
Simplicity	○ ○ ○ ○ ○ ○ ○
Readability	○ ○ ○ ○ ○ ○ ○
Terminology and Abbreviations	○ ○ ○ ○ ○ ○ ○
Ease of Recognition	○ ○ ○ ○ ○ ○ ○
Consistency	○ ○ ○ ○ ○ ○ ○
Satisfaction	○ ○ ○ ○ ○ ○ ○
Match Expectations	○ ○ ○ ○ ○ ○ ○
Error Prevention and Recovery	○ ○ ○ ○ ○ ○ ○
Feedback	○ ○ ○ ○ ○ ○ ○
Organisation	○ ○ ○ ○ ○ ○ ○
System Response Time	○ ○ ○ ○ ○ ○ ○
Menu Hierarchy Levels	○ ○ ○ ○ ○ ○ ○
Fixed Function Keys (if Applicable)	○ ○ ○ ○ ○ ○ ○
Quick Reference Guide Navigation	○ ○ ○ ○ ○ ○ ○
Quick Reference Guide Information Quality	○ ○ ○ ○ ○ ○ ○
Overall System Level Graphic User Interface Acceptability	○ ○ ○ ○ ○ ○ ○

ENCLOSURE 2 TO ATTACHMENT 2 TO APPENDIX 2 TO ANNEX CB TO VOLUME 1

UAPE Stage 2- Bidder Led Training Stand

Introduction

The purpose of the Training Stand is to ensure a consistent level of knowledge across the range of evaluation soldiers and enable them to effectively employ the proposed P(Bid) System.

The following description provides a general overview of training to be provided by the Bidder. Evaluation soldiers will receive training on system components/functions, system assembly, software navigation and menu structure, functionality and software steps required for system status, reporting, text entry / messaging, transferring information, auditory display, digital map use, Position Awareness / Situation Awareness (PA/SA), mission planning functions, plotting a route, and target designation. Bidders should come prepared with all training equipment, aids, hand-outs and audio visual equipment as needed to conduct their training session.

Objective

This test stand will:

- Prepare evaluation soldiers to successfully complete all Test Stands as outlined in Stage 3 UAPE Test Stands and prepare the evaluation soldiers for Stage 4.

Syllabus

It is the sole responsibility of the Bidder to ensure evaluation soldiers are adequately trained to complete all Test Stands. Training will be conducted with a maximum student to teacher ratio of 5 students to 1 instructor. Participant competency should be assessed by Bidders, any soldier lacking sufficient competency should be given immediate remedial training in the area in question. The time for remedial training will not exceed the time allocated to bidders to conduct Stage 2. Evaluation Soldiers will perform selected Test Stands at the completion of each day of Bidder Led Training. Bidders are free to modify the training syllabus below but should ensure the subjects listed are taught on the day specified, so that evaluation soldiers are prepared for the afternoon Test Stands.

The proposed training syllabus can be found in the UAPE Preparation Instructions at para 7 of Attachment 2 to Appendix 2 to Annex CB to Volume 1 under Day 1 and Day 2

ENCLOSURE 3 TO ATTACHMENT 2 TO APPENDIX 2 TO ANNEX CB TO VOLUME 1

STAGE 3 – Bidder Assisted Test Stands

Index

Test Stand #1 System Assembly 4
Conduct 4
Objectives 4
System Assembly Instruction and Demonstration 4
Objective Testing 4
Subjective Testing 5
Measures 5
Test Stand #2 Text Messaging/Reporting 7
Conduct 7
Objective 7
Text Entry 7
Messages 7
Reports 7
Data Collection 8
Test Stand #3 Input Devices 14
Conduct 14
Objectives 14
Control Activation and Adjustment 14
Protocol 14
Measures 17
Test Stand #4 Planning 20
Conduct 20
Objectives 20
Navigation Route Plan 20
Observation Post (OP) Plan 20
Measures 20
Test Stand #5 Visual Display Usability (Daytime) 24
Conduct 24
Objectives 24
Measures 24
Test Stand #6 Weapon Compatibility 26
Conduct 26

Objectives 26
Protocol 26
Measures 26
Test Stand #7 Protective Equipment Compatibility 28
Conduct 28
Objectives 28
Range of Motion Assessments 28
Protective Equipment Compatibility Procedures 30
MLCS with Brassards and Battle Order Equipment 30
Helmet 30
Ballistic Eyewear (BEW) 31
Audio Display 31
CBRN Gas Mask with carrier 31
Measures 32
Test Stand #8 Handwear Compatibility 35
Conduct 35
Objectives 35
Protocol 35
Test Stand #9 Other Equipment and Clothing Compatibility 37
Conduct 37
Objectives 37
Protocol 37
Measures 38
Test Stand #10 Target Designation/Hand-off 40
Conduct 40
Objectives 40
Target Designation / Hand-off 40
Targets 41
Measures 42
Test Stand #11 Position and Situational Awareness 45
Conduct 45
Objectives 45
Outdoor Classroom 45
Test Stand #12 BMS Navigation 49
Conduct 49
Objectives 49
Navigation Routes 49
Measures 49
Test Stand #13 Detectability 53
Conduct 53
Objectives 53
Measures 53
Test Stand #14 Auditory Display 55
Conduct 55
Objectives 55

Wooded Terrain 55
LAV III 55
OBUA 56
Measures 56
Test Stand #15 Vehicle Compatibility 59
Conduct 59
Objectives 59
Combat Load 59
Vehicle Tasks 59
G-wagon 59
Air Sentry – LAV III 60
Measures: 60
Test Stand #16 Configurability, Fit, and Adjustability 62
Conduct 62
Objectives 62
Combat Load 62
Configurability 62
Fit and Adjustability 62
Measures 62
Test Stand #17 Alarms/Alerts 66
Conduct 66
Alerts/Alarms Detection and Recognition 66

Test Stand #1 System Assembly

Conduct

This test stand is intended to be done with haste as it is a review of what has been taught by bidders during Stage 2. Evaluation soldiers will be made aware of the critical considerations in system assembly by completing the focussing questionnaire. The P(Bid) System will be assembled as directed below but will not involve the removal of pouches from the MLCS (unless required to complete one of the assembly actions).

Objectives

This test stand will:

- Evaluate the system assembly characteristics of candidate P(Bid) System using gloved and bare hands.

System Assembly Instruction and Demonstration

In order to gain a basic understanding and familiarity with the P(Bid) System, the evaluation soldiers will be given a demonstration tutorial during Stage 2 by Bidders regarding the assembly of the system and mounting on the MLCS.

Objective Testing

Following instruction and demonstration of proper system assembly, evaluation soldiers will be required to assemble the P(Bid) System. They will be informed that they will be timed as they assemble the system, and that the number of errors they make (for both assembling the system onto the MLCS and the cable / wire connections). This is intended to provide a stress factor to simulate the sense of urgency found under operational conditions.

The soldiers will perform this test with each P(Bid) System in the following conditions:

- Gloved hands (daylight environment)
- Bare hands (daylight environment)

HFOs will monitor the evaluation soldiers and instruct them when to begin system assembly by verbalizing the “Go” command. At that time, the HFO will initiate the stopwatch to time the assembly task. When the evaluation soldiers believes they are finished, they will say “Done”, and the HF observer will stop the time on the stopwatch. After the evaluation soldiers have completed the system assembly task, they will be asked to replace a battery in the system. This part replacement task will occur in each of the above-noted conditions (gloved hands, etc), and the task will be timed and measured for errors as well.

Subjective Testing

Evaluation soldiers will be given 3 minutes to interact with the P(Bid) System to test out the connectors, cables and component parts. The evaluation soldiers will assess the system for potential cable snagging, cable quick release, speed and ease of assembly, speed and ease of replacing components and intuitiveness of the assembly process.

Measures

The following measures will be collected during the experiment to provide a stress factor to simulate the sense of urgency found under operational conditions and to ensure soldiers are provided feedback on their performance on the subject P(Bid) System through objective measures only.

Time to Assemble the P(Bid) System:

A stopwatch will be used to measure the time it takes for the evaluation soldier to assemble the cables and the attachment system. The time will begin on the HFO's command, and will end when the evaluation soldier indicates they are finished (by saying "Done"). The time will be recorded to the nearest second.

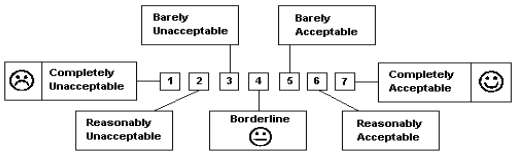
- User's Focus Questionnaire:

  After the evaluation soldier has completed the 3 minute session of interaction with the P(Bid) System, they will be asked to complete the following focus questionnaire on various aspects of the assembly of each of the P(Bid) System.

SYSTEM ASSEMBLY

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability for the different aspects of usability of the system GUI.



	Acceptability	
	BARE HAND	GLOVED HAND
Usability of Cable Connections	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Ease of Connecting	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Ease of Disconnecting	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Speed of Connecting	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Speed of Disconnecting	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Intuitiveness of Connecting	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Intuitiveness of Disconnecting	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Cable Quick-Release Function	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Other Cable Features	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Durability/Ruggedness	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Stability of Connection	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Potential for Cable Snagging	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Security of Cable Connection	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Labelling of Cables (Colour, Shape, Coding, Alphanumeric, etc.)	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Overall Acceptability of Cables	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○
Overall Acceptability of System Assembly	○ ○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○ ○

Test Stand #2 Text Messaging/Reporting

Conduct

This test stand is intended to evaluate the acceptability of Text Messaging and Reporting. This test stand will be run as a non-tactical stand.

Objective

This test stand will:

- Provide realistic tasks to enable evaluation soldiers to evaluate text entry functionality of the P(Bid) System.
- Provide realistic communication tasks to enable evaluation soldiers to evaluate the texting functionality of P(Bid) System (if provided).
- Collect data on messaging and texting sub-criteria to ensure evaluation soldiers thoughtfully consider important, underlying aspects of the P(Bid) System messaging and reporting system (if provided).

Text Entry

Evaluation soldiers will be required to enter text in each P(Bid) System. Tasks include:

- Log-on to system (alpha-numeric) if applicable
- Mark a target on the display by inputting a 10 figure grid and labelling the target
- Draw, label, route, and save route
- Rename route

Messages

If provided with this capability, evaluation soldiers will be required to prepare reports based on written samples of text and save them. Messages shall be based upon:

- EOD
- SITREP

Reports

If provided with this capability, evaluation soldiers will be required to develop operational reports using sample information. The reports shall be based upon:

- Call for Fire
- Casualty Evacuation Request (CASEVACREQ)
- Contact Report

Data Collection

The following measures will be collected:

a. Messaging Acceptability Rating:

Evaluation soldiers will be required to complete a text messaging questionnaire to assess the acceptability of the P(Bid) System text messaging capability.

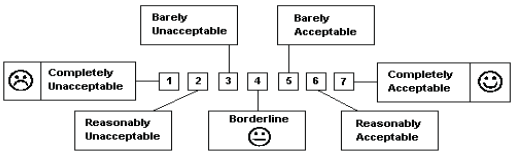
b. Reports/Returns Acceptability Rating:

Evaluation soldiers will complete the following reports/returns messaging focus questionnaire on the P(Bid) System reporting capability.

TEXT ENTRY

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the P(Bid) System for the text entry criteria noted below



	Acceptability 1 2 3 4 5 6 7
Text Entry	
Keyboard Layout	○ ○ ○ ○ ○ ○ ○
Usability of Keyboard	○ ○ ○ ○ ○ ○ ○
Size of Keys	○ ○ ○ ○ ○ ○ ○
Feedback Provided	○ ○ ○ ○ ○ ○ ○
Speed of Text Entry	○ ○ ○ ○ ○ ○ ○
Ease of Text Entry	○ ○ ○ ○ ○ ○ ○
System Response Speed	○ ○ ○ ○ ○ ○ ○
Ability to correct errors	1 2 3 4 5 6 7
Ease of Correcting Errors	○ ○ ○ ○ ○ ○ ○
Editing Capabilities	○ ○ ○ ○ ○ ○ ○
Accuracy	○ ○ ○ ○ ○ ○ ○
Sensitivity	○ ○ ○ ○ ○ ○ ○
Access Text Entry Screen	1 2 3 4 5 6 7
Speed of accessing Text entry screen	○ ○ ○ ○ ○ ○ ○
Ease of Accessing Text Entry Screen	○ ○ ○ ○ ○ ○ ○

	Acceptability 1 2 3 4 5 6 7
Tactical Feasibility – Text Entry	
Prone	○ ○ ○ ○ ○ ○ ○
Kneeling	○ ○ ○ ○ ○ ○ ○
Durability – Text Entry	1 2 3 4 5 6 7
Text Entry Device	○ ○ ○ ○ ○ ○ ○
Screen	○ ○ ○ ○ ○ ○ ○
Viewing Messages – Text Entry	1 2 3 4 5 6 7
Screen Display Size	○ ○ ○ ○ ○ ○ ○
Ability to Scroll	○ ○ ○ ○ ○ ○ ○
Ability to Search Within Message Legibility (Font Size and Type)	○ ○ ○ ○ ○ ○ ○
Overall – Text Entry	1 2 3 4 5 6 7
Overall Acceptability of the P(Bid) System Text Entry Functionality	○ ○ ○ ○ ○ ○ ○

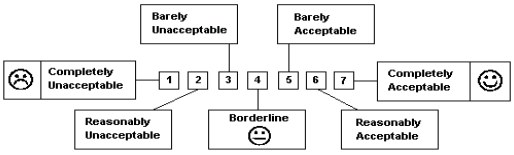
	Acceptability
Access Message Screen (If Provided)	1 2 3 4 5 6 7
Speed of Accessing Text Messaging Screen	○ ○ ○ ○ ○ ○ ○
Ease of Accessing Text Messaging Screen	○ ○ ○ ○ ○ ○ ○
Managing Text Messages (If Provided)	○ ○ ○ ○ ○ ○ ○
Alerting of Incoming Message	○ ○ ○ ○ ○ ○ ○
Saving Messages	○ ○ ○ ○ ○ ○ ○
Organising Messages	○ ○ ○ ○ ○ ○ ○
Searching Messages	○ ○ ○ ○ ○ ○ ○
Deleting Messages	○ ○ ○ ○ ○ ○ ○
Feedback for User Actions	○ ○ ○ ○ ○ ○ ○
Tactical Feasibility – Text Messaging (If Provided)	1 2 3 4 5 6 7
Prone	○ ○ ○ ○ ○ ○ ○
Kneeling	○ ○ ○ ○ ○ ○ ○
Durability – Text Messaging (If Provided)	1 2 3 4 5 6 7
Text Messaging Device	○ ○ ○ ○ ○ ○ ○
Screen	○ ○ ○ ○ ○ ○ ○

	Acceptability
Viewing Text Messages (If Provided)	1 2 3 4 5 6 7
Screen Display Size	○ ○ ○ ○ ○ ○ ○
Ability to Scroll	○ ○ ○ ○ ○ ○ ○
Ability to Search Within Message	○ ○ ○ ○ ○ ○ ○
Legibility (Font Size and Type)	○ ○ ○ ○ ○ ○ ○
Creating Text Messages (If Provided)	1 2 3 4 5 6 7
Speed of Text Entry	○ ○ ○ ○ ○ ○ ○
Ease of Text Entry	○ ○ ○ ○ ○ ○ ○
System Response Speed	○ ○ ○ ○ ○ ○ ○
Ability to Correct Errors	○ ○ ○ ○ ○ ○ ○
Ease of Correcting Errors	○ ○ ○ ○ ○ ○ ○
Editing Capabilities During Text Entry	○ ○ ○ ○ ○ ○ ○
Accuracy of Text Entry	○ ○ ○ ○ ○ ○ ○
Sensitivity of Text Entry Device	○ ○ ○ ○ ○ ○ ○
Prioritize Message	○ ○ ○ ○ ○ ○ ○
Overall	1 2 3 4 5 6 7
Overall Acceptability of the P(Bid) System Text Messaging Functionality	○ ○ ○ ○ ○ ○ ○

REPORTS / RETURNS

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the P(Bid) System for the Reports / Returns criteria noted below.



	Acceptability						
Access Reports / Returns (R/R) Screen (If Provided)	☹ 1	2	3	😐 4	5	6	☺ 7
Speed of Accessing Report Messaging Screen	○	○	○	○	○	○	○
Ease of Accessing Report Messaging Screen	○	○	○	○	○	○	○
Speed of Accessing Specific R/R	○	○	○	○	○	○	○
Ease of Accessing Specific R/R	○	○	○	○	○	○	○
Managing R/R	☹ 1	2	3	😐 4	5	6	☺ 7
Alerting of Incoming R/R	○	○	○	○	○	○	○
Acknowledge R/R Receipt	○	○	○	○	○	○	○
Saving R/R	○	○	○	○	○	○	○
Organizing R/R	○	○	○	○	○	○	○
Searching R/R	○	○	○	○	○	○	○
Deleting R/R	○	○	○	○	○	○	○
Filters	○	○	○	○	○	○	○
Feedback for User Actions	○	○	○	○	○	○	○
Viewing/Saving Attachments	○	○	○	○	○	○	○

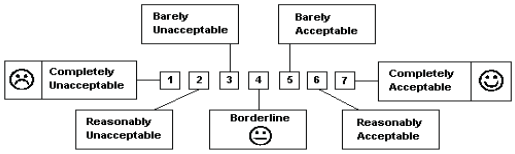
	Acceptability						
Viewing Reports / Returns (R/R) (If Provided)	☹ 1	2	3	😐 4	5	6	☺ 7
Screen Display Size	○	○	○	○	○	○	○
Ability to Scroll	○	○	○	○	○	○	○
Ability to Search Within R/R	○	○	○	○	○	○	○
Legibility (Font Size and Type)	○	○	○	○	○	○	○
Tactical Feasibility (If Provided)	☹ 1	2	3	😐 4	5	6	☺ 7
Prone	○	○	○	○	○	○	○
Kneeling	○	○	○	○	○	○	○
Creating R/R (If Provided)	☹ 1	2	3	😐 4	5	6	☺ 7
Predefined Fields	○	○	○	○	○	○	○
Prompted Fields	○	○	○	○	○	○	○
Marked Required and Optional Fields	○	○	○	○	○	○	○
Explicit Tabbing to Data Fields	○	○	○	○	○	○	○
Compatible with data Entry	○	○	○	○	○	○	○
Compatibility with Display	○	○	○	○	○	○	○
Minimal Cursor Positioning	○	○	○	○	○	○	○

	Acceptability
Creating R/R Continued…	☹ 1 2 3 ☺ 4 5 6 ☺ 7
Auto Completion of Fields	○ ○ ○ ○ ○ ○ ○
Ease of Correcting Errors	○ ○ ○ ○ ○ ○ ○
Editing Capabilities During Text Entry	○ ○ ○ ○ ○ ○ ○
Prioritize Message	○ ○ ○ ○ ○ ○ ○
Attaching Files	○ ○ ○ ○ ○ ○ ○
Speed of R/R Generation	○ ○ ○ ○ ○ ○ ○
Ease of R/R Generation	○ ○ ○ ○ ○ ○ ○
Overall	☹ 1 2 3 ☺ 4 5 6 ☺ 7
Overall Acceptability of the P(Bid) System R/R Functionality	○ ○ ○ ○ ○ ○ ○

OVERALL MESSAGING

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the <u>overall</u> acceptability of the P(Bid) System system for Text Messaging and Reports / Returns Functionality Entry /



	Acceptability
Overall	1 2 3 4 5 6 7
Overall Acceptability of the P(Bid) System Messaging and R/R Functions	○ ○ ○ ○ ○ ○ ○
Overall Acceptability of the P(Bid) System Text Entry Function	○ ○ ○ ○ ○ ○ ○

Test Stand #3 Input Devices

Conduct

This test stand will be run in a non-tactical environment. Evaluation soldiers will be asked to perform specific functions with the P(Bid) System. Evaluation soldiers should be familiar with the P(Bid) System's input capabilities due to Stage 2. Bidders will be required to fill in a "test stand tailoring" form during the Bidder's coordination meeting as per Article 2.6.4 of Volume 1, to ensure their specific controls are evaluated.

Objectives

This test stand will:

- Evaluate control activation and adjustment activities for candidate P(Bid) System in realistic environments.
- Evaluate the usability of control devices on candidate P(Bid) System in day light conditions using bare hands.
- Ensure soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Input Device Usability" section of the user acceptance performance specifications.

Control Activation and Adjustment

The goal of this test stand is to evaluate Input Device Usability for the P(Bid) System. Specifically, the control activation and adjustment activities will consist of a series of radio interactions (on/off, adjust volume, adjust channel, depress PTT), visual display interactions (orient display for viewing, stow display, adjust brightness), key in text, pointing on the display. All tests will be performed in day light conditions using bare hands.

Protocol

Evaluation soldiers will be required to evaluate control activation and adjustment activities for candidate P(Bid) System such as those related to the radio, key pad/push buttons, pointing/input devices, visual display, and other hardware controls. These tasks are shown in the following figure and are detailed below.

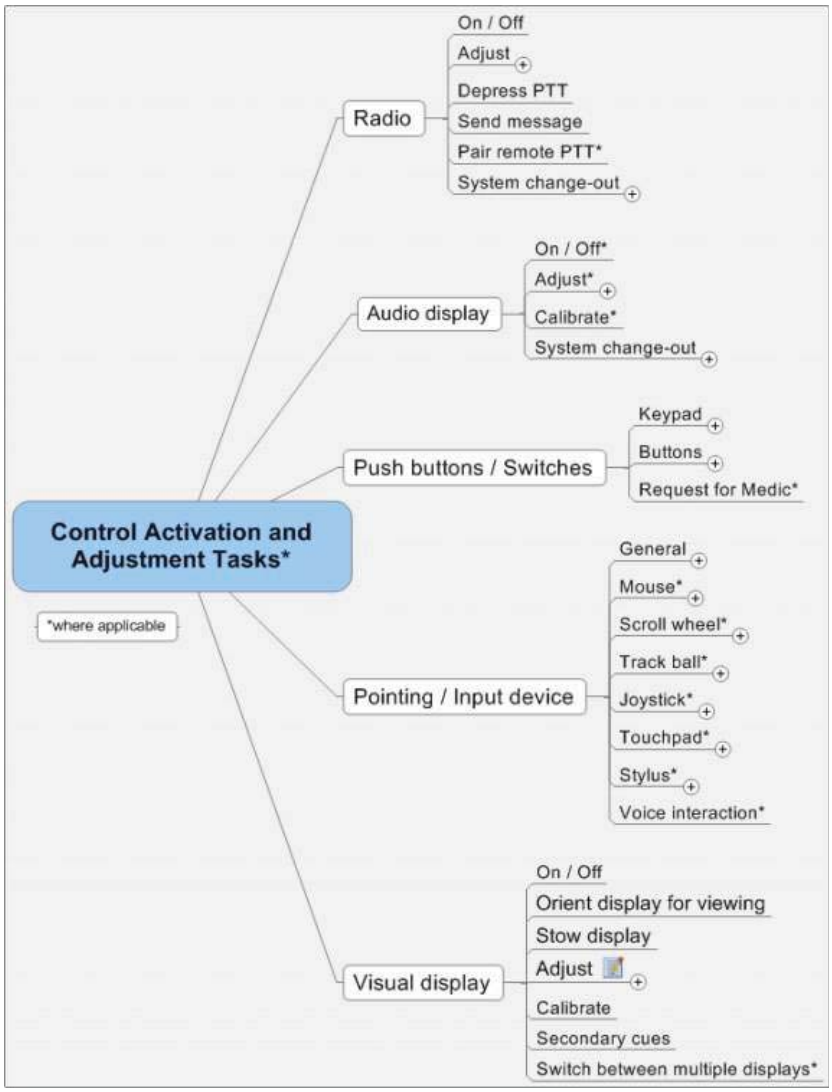


Figure 1: Control Activation and Adjustment Tasks

Radio

- On / Off
- Adjust
    - Volume
    - Channel
    - Antenna
    - On-screen display
- Depress PTT
- Send message
- Pair remote PTT
- System change-out
    - Antenna

- Remote PTT

Audio display

- On / Off
- Adjust
  - Volume
  - Audio display
- Calibrate
- System change-out
  - Audio display

Push buttons / Switches

- Keypad
  - Enter alphanumeric text (i.e. compose a predefined text message)
- Buttons
  - Press. Depress a button and hold it down
  - Release. Release a button that has been depressed
  - Click. Press and release a button without moving the pointing device

Pointing / Input device

- General
  - Calibrate device
  - On screen navigation
- Mouse
  - Buttons
  - Press. Depress a button and hold it down
  - Release. Release a button that has been depressed
  - Click. Press and release a button without moving the pointing device
  - Double click. Press and release a button twice in rapid succession without moving the pointing device.
  - Drag. Depress a button and move the device while holding the button down
  - Move. Move the pointing device without pressing any buttons. [Source: DON UISNCCS, 1992]
  - Left-right reversal.
- Scroll wheel
  - Up / down through menu items
  - Up / down through window
- Track ball
  - Move. Move the pointing device without pressing any buttons. [Source: DON UISNCCS, 1992]
- Joystick
  - Move. Move the pointing device without pressing any buttons. [Source: DON UISNCCS, 1992]
- Touchpad

  - Click. Press and release a button without moving the pointing device
  - Double click. Press and release a button twice in rapid succession without moving the pointing device.
  - Move. Move the pointing device without pressing any buttons. [Source: DON UISNCCS, 1992]
- Stylus
  - Click. Press and release a button without moving the pointing device
  - Double click. Press and release a button twice in rapid succession without moving the pointing device.
  - Move. Move the pointing device without pressing any buttons. [Source: DON UISNCCS, 1992]
- Voice interaction

Visual display

- On / Off
- Orient display for viewing
- Stow display
- Adjust
  - Contrast
  - Colour
  - Luminance
  - Brightness
- Calibrate
- Secondary cues

Other hardware controls

- System change-outs
  - Display
  - Ancillary devices

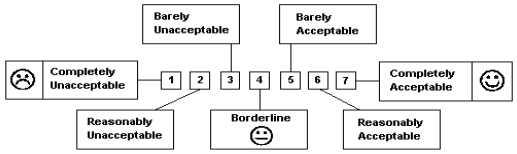
Measures

After the evaluation soldier has completed the testing of and interaction with the controls and input devices as noted in Section 1, they will complete the following focus questionnaire on various aspects of the control and input devices of each of the P(Bid) System.

INPUT DEVICES

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the following features for the usability of controls



	Acceptability BARE HAND						
Radio Usability	1	2	3	4	5	6	7
Switching On / Off	○	○	○	○	○	○	○
Adjusting Volume	○	○	○	○	○	○	○
Adjusting Channel	○	○	○	○	○	○	○
Depressing PTT	○	○	○	○	○	○	○
Sending Message	○	○	○	○	○	○	○
Audio Display Usability	1	2	3	4	5	6	7
Switching On / Off	○	○	○	○	○	○	○
Adjusting Volume	○	○	○	○	○	○	○
Push Buttons / Switches Usability	1	2	3	4	5	6	7
Buttons	○	○	○	○	○	○	○
Keypad	○	○	○	○	○	○	○
Switches	○	○	○	○	○	○	○

		Acceptability						
Pointing / Input Device Usability		1	2	3	4	5	6	7
Calibrate Device	n/a ○	○	○	○	○	○	○	○
On-Screen Navigation		○	○	○	○	○	○	○
Depressing Button		○	○	○	○	○	○	○
Releasing Button		○	○	○	○	○	○	○
Clicking (Single Click)	n/a ○	○	○	○	○	○	○	○
Clicking (Double Click)	n/a ○	○	○	○	○	○	○	○
Drag	n/a ○	○	○	○	○	○	○	○
Moving / Scrolling	n/a ○	○	○	○	○	○	○	○
Left / Right Reversal	n/a ○	○	○	○	○	○	○	○

	Acceptability
Visual Display Usability	☹ 1 2 3 ☺ 4 5 6 ☺ 7
Switching On / Off	○ ○ ○ ○ ○ ○ ○
Calibrate Display n/a ○	○ ○ ○ ○ ○ ○ ○
Orient Display for Viewing	○ ○ ○ ○ ○ ○ ○
Stow Display	○ ○ ○ ○ ○ ○ ○
Adjust Colour	○ ○ ○ ○ ○ ○ ○
Switch Between Multiple Displays	n/a ○

		Acceptability
Overall Control Usability		☹ 1 2 3 ☺ 4 5 6 ☺ 7
Radio		○ ○ ○ ○ ○ ○ ○
Audio Display		○ ○ ○ ○ ○ ○ ○
Push Buttons / Switches		○ ○ ○ ○ ○ ○ ○
Pointing / Input Devices		○ ○ ○ ○ ○ ○ ○
Visual Display		○ ○ ○ ○ ○ ○ ○
Suitability for Right Handed Users	n/a ○	○ ○ ○ ○ ○ ○ ○
Suitability for Left Handed Users	n/a ○	○ ○ ○ ○ ○ ○ ○
Overall		☹ 1 2 3 ☺ 4 5 6 ☺ 7
Overall Usability of System Controls		○ ○ ○ ○ ○ ○ ○

Test Stand #4 Planning

Conduct

In a non tactical environment, evaluation soldiers will be instructed to prepare a navigation route and an observation post.

Objectives

This test stand will:

- Provide realistic planning tasks to allow evaluation soldiers to assess the P(Bid) System's Planning capability.
- Ensure soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Battle Management System - Planning Acceptability" requirement of the user acceptance performance specifications.

Navigation Route Plan

Evaluation soldiers will be instructed to develop a route plan using their P(Bid) System display, to be able to navigate between two locations on the map. Locations will be provided to the evaluation soldier as 8-figure grid references. Evaluation soldiers will be required to determine the shortest route, with a minimum of three legs that provides the best tactical concealment.

Observation Post (OP) Plan

Evaluation soldiers will be instructed to plan the location of an OP to detect enemy along a possible line of advance, using their P(Bid) System display. Evaluation soldiers will be required to determine the most suitable OP location that provides the best field of surveillance and offers the least dead ground opportunities for enemy cover. We recognize that planning an OP is a rated requirement, yet the evaluation soldier may use the other capabilities provided on the P(Bid) System (i.e. hand drawings, digital map) to achieve this task.

Measures

The following measures will be collected during the experiment to provide a stress factor to simulate the sense of urgency found under operational conditions and to ensure soldiers are provided feedback on their performance on the subject P(Bid) System.

a. <u>Time to Plan:</u>
   - The time required by the evaluation soldier to plan a navigation route will be measured.
   - The time required by the evaluation soldier to plan the location of an OP will be measured.

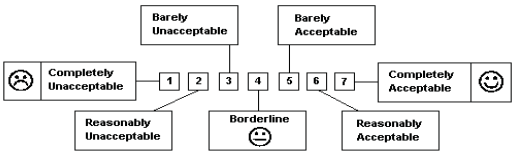
b. <u>Planning Acceptability Ratings:</u>

Evaluation soldiers will complete the following focus questionnaire to assess the utility and usability of each P(Bid) System planning capability.

PLANNING

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the following features for planning tasks.



	Acceptability						
Terrain Visualisation for Planning	1	2	3	4	5	6	7
Readability of the Map Display	○	○	○	○	○	○	○
Effectiveness of Visualising Vital Ground	○	○	○	○	○	○	○
Effectiveness for Identifying Dead Ground	○	○	○	○	○	○	○
Effectiveness for Identifying Terrain Obstacles	○	○	○	○	○	○	○
Mental Workload	1	2	3	4	5	6	7
Physical Demand	○	○	○	○	○	○	○
Temporal Demand (Time Pressure)	○	○	○	○	○	○	○
Mental Demand (Perceiving / Thinking)	○	○	○	○	○	○	○
Effort	○	○	○	○	○	○	○
Frustration	○	○	○	○	○	○	○

	Acceptability						
Route Planning	1	2	3	4	5	6	7
Ease of Identifying Concealed Routes	○	○	○	○	○	○	○
Ease of Estimating Route Traverse Time	○	○	○	○	○	○	○
Ease of Identifying Good Waypoint Locations	○	○	○	○	○	○	○
Ease of Plotting Route Plan	○	○	○	○	○	○	○
Ease of Modifying Route While Planning	○	○	○	○	○	○	○
Accuracy of Planning Function	○	○	○	○	○	○	○
Ease of Changing Route Plan While Navigating	○	○	○	○	○	○	○
Confidence in System	○	○	○	○	○	○	○
OP Planning	☹			😐			😀
Ability to Determine Sight Lines	○	○	○	○	○	○	○
Ease of Estimating Likely Enemy Approaches	○	○	○	○	○	○	○
Overall Acceptability - Planning	○	○	○	○	○	○	○

Test Stand #5 Visual Display Usability (Daytime)

Conduct

This test stand is solely the administration of the questionnaire. Each soldier will have already operated the P(Bid) System during the day in outdoor conditions and will therefore be familiar with its display capabilities. Interaction with HFOs on this test stand will be to explain fields on the survey if evaluation soldiers are unfamiliar with terminology.

Objectives

This test stand will:

- Enable evaluation soldiers to understand in a tangible fashion which considerations form the basis for evaluation the P(Bid) System display from a usability perspective.
- Ensure evaluation soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Visual Display" requirement of the user acceptance performance specifications for the user's subjective response to the visual displays

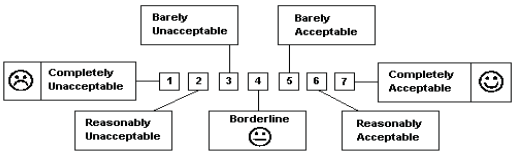
Measures

Completion of the User's Focus Questionnaire:

VISUAL DISPLAY (DAY)

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the P(Bid) System for use in daylight conditions.



	Acceptability
Other Display Properties	1 2 3 4 5 6 7
Ease of Aligning Display For Viewing	○ ○ ○ ○ ○ ○ ○
Time to Align Display for Viewing	○ ○ ○ ○ ○ ○ ○
Ability to Shield Screen from Sunlight While Reading	○ ○ ○ ○ ○ ○ ○
Obstructions to Normal Field of View (e.g. Ground, Pouches) While Viewing Display	○ ○ ○ ○ ○ ○ ○
Hands-Free Operation	○ ○ ○ ○ ○ ○ ○
Hand-Held Operation	○ ○ ○ ○ ○ ○ ○
Durability of Display	○ ○ ○ ○ ○ ○ ○
Bulk of Display	○ ○ ○ ○ ○ ○ ○
Weight of Visual Display	○ ○ ○ ○ ○ ○ ○
Overall Acceptability of Visual Display	○ ○ ○ ○ ○ ○ ○

Test Stand #6 Weapon Compatibility

Conduct

This test stand will run as part of an over all compatibility series of test stands in a round-robin format.

Objectives

This test stand will:

- Provide a realistic weapon task to enable evaluation soldiers to evaluate candidate P(Bid) System for their weapon compatibility.
- Collect "Personal and Platoon Weapon Compatibility Acceptability" ratings from evaluation soldiers to assess the HF user acceptance performance specifications for candidate P(Bid) System weapon compatibility.

Protocol

Each candidate P(Bid) System's compatibility clash will be identified and evaluated indoors at static test stands. Evaluation soldiers will be encouraged to adjust and configure their P(Bid) Systemb to the best of their ability to accommodate the test weapon prior to each test. All weapons compatibility will be evaluated while wearing the P(Bid) System and full fighting order.

The static compatibility test stands will comprise the following pieces of weapons:

1. C7A2 ,
2. C9A2,
3. C7A2 M203 ,
4. M72 SRAAW (L),
5. Grenade - Fragmentation,
6. CARL GUSTAV SRAAW (M), and
7. 9 mm Pistol.

Compatibility testing will evaluate a variety of firing postures and remedial action drills. Evaluation soldiers will be required to rate the compatibility of each P(Bid) System condition with each of the selected weapons at each test stand.

Measures

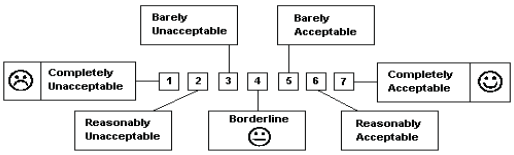
a. Weapon Compatibility Acceptability:

Evaluation soldiers will complete the following weapon compatibility focus questionnaire on the compatibility of the P(Bid) System design to weapon systems.

WEAPON COMPATIBILITY

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability for the P(Bid) System for weapon compatibility.



	Acceptability						
Personal Weapon Compatibility	1	2	3	4	5	6	7
C7A2	○	○	○	○	○	○	○
C7A2 with M203	○	○	○	○	○	○	○
C9A2	○	○	○	○	○	○	○
M72 SRAAW (L)	○	○	○	○	○	○	○
Grenade	○	○	○	○	○	○	○
9mm Pistol	○	○	○	○	○	○	○
Overall Personal Weapon Acceptability	○	○	○	○	○	○	○
Platoon Weapons Compatibility							
CARL GUSTAV SRAAW (M) Number 1 Position	○	○	○	○	○	○	○
CARL GUSTAV SRAAW (M) Number 2 Position	○	○	○	○	○	○	○
Overall Platoon Weapon Acceptability	○	○	○	○	○	○	○

Test Stand #7 Protective Equipment Compatibility

Conduct

This test stand will run as part of an over all compatibility series of test stands in a round-robin format and may be run concurrent to other compatibility test stand.

Objectives

This test stand will:

- Enable evaluation soldiers to evaluate candidate P(Bid) System with in-service Canadian Forces Combat Clothing.
- Provide a standardized range of motion test to enable soldiers to evaluate the impact of P(Bid) System on ease of movement.
- Ensure evaluation soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Protective Equipment Compatibility" requirement of the user acceptance performance specifications.

Range of Motion Assessments

Although objective tests of Range of Motion (ROM) are not possible in this User Acceptance Performance Evaluation, ROM assessments will be performed by evaluation soldiers to subjectively assess the impact of each P(Bid) System on a soldier's ability to functionally move. Range of motion tests to include (TBC):

- Trunk forward flexion
    - Bend at waist, hold for approximately 2 seconds, as per Figure 2

Figure 2: Trunk Forward Flexion

- Trunk lateral flexion
    - Bend the trunk to the side as far as possible, hold for 2 seconds, as per Figure 3.

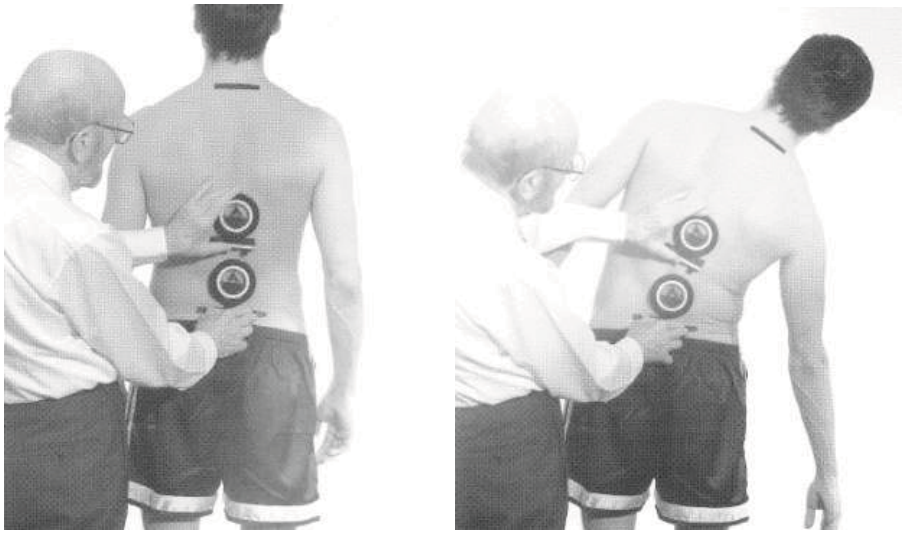


Figure 3: Trunk Lateral Flexion

- Shoulder Adduction
    - With the shoulder slighted flexed in front of the body (approximately 30 degrees) the soldier should flex their elbow 90 degrees
    - The soldier should adduct their arm in front of their body, as per Figure 4.

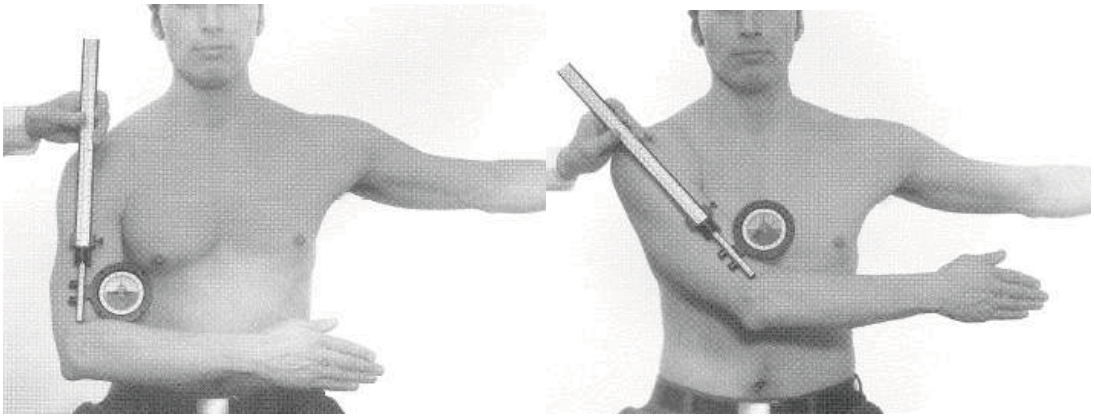


Figure 4: Shoulder Adduction

- Trunk Rotation
    - The soldier should maximally rotate to the side as per Figure 5.

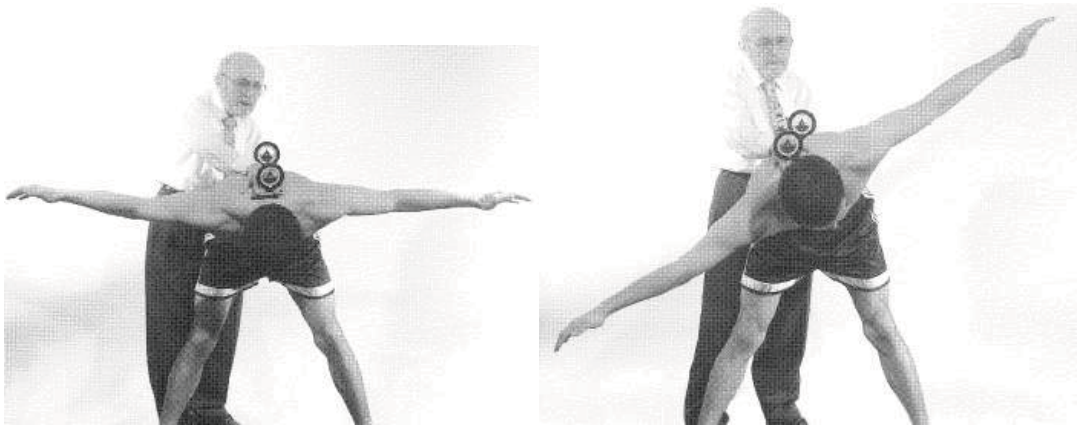


Figure 5: Trunk Rotation

- Apley's Scratch Test
    - One arm should reach behind the back over the shoulder while the other arm should be brought up from below the opposite shoulder
    - Repeat with the opposite shoulder

Protective Equipment Compatibility Procedures

The physical compatibility of the P(Bid) System will be assessed with in-service protective clothing systems. The protective systems may include but is not limited to:

- Fragmentation vest
- CG634
- Ballistic eyewear (BEW)
- CBRN C4 gas mask

MLCS with Brassards and Battle Order Equipment

- Each evaluation soldier will don and adjust their helmet, MLCS (fully loaded with the appropriate combat battle order specific to the individual's P(Bid) System configuration) and brassards over their combat clothing.
- Once fully donned and integrated, each evaluation soldier will move through the above noted series of range of motion tests.
- Evaluation should note any incompatibility issues such as visual/auditory obstructions, tangling or snagging of cabling, ease of use, bulk, etc.

Helmet

- Each evaluation soldier will don and adjust their helmet, tactical vest (fully loaded in accordance with the conceptual load and the specifics of the individual's P(Bid) System configuration) and brassards over their combat clothing.

- Once fully donned and integrated, each evaluation soldier will:
    - Move their neck from side to side (e.g. put ear to shoulder, etc.)
    - Move their neck front to back (e.g. put chin to chest, etc.)
    - Rotate their neck as far to the left as possible, move back to centre, rotate their neck as far to the right as possible.
- Evaluation soldiers should note any instances of incompatibility such as visual/auditory obstructions, tangling or snagging of cabling, ease of use, bulk, etc.

Ballistic Eyewear (BEW)

- Each evaluation soldier will don and adjust their helmet and MLCS (fully loaded with the appropriate combat battle order specific to the individual's P(Bid) System configuration) over their combat clothing.
- Each evaluation soldier will don their ballistic eyewear,.
- For each eyewear item, each evaluation soldier will:
    - Move their neck from side to side (e.g. put ear to shoulder, etc.)
    - Move their neck front to back (e.g. put chin to chest, etc.)
    - Rotate their neck as far to the left as possible, move back to centre, rotate their neck as far to the right as possible.
- Evaluation soldiers should note any instances of incompatibility such as visual/auditory obstructions, tangling or snagging of cabling, ease of use, bulk, etc.

Audio Display

- Each evaluation soldier will don and adjust their helmet and MLCS (fully loaded with the appropriate combat battle order specific to the individual's P(Bid) System configuration) over their combat clothing.
- Each evaluation soldier will don their Audio Display and note any instances of incompatibility such as visual obstructions, auditory obstructions (above and beyond the functional use of hearing protection), tangling or snagging of cabling, ease of use, bulk, etc.

CBRN Gas Mask with carrier

- Each evaluation soldier will don and adjust their helmet and MLCS (fully loaded with the appropriate combat battle order specific to the individual's P(Bid) System configuration) over their combat clothing.
- Each evaluation soldier will perform the CBRN Masking drill. The time required to complete the masking drill will be recorded.
- Evaluation soldiers will utilize their candidate P(Bid) System while wearing the C4 respirator in a fashion deemed typical for their P(Bid) System configuration and note any instances of

incompatibility such as visual/auditory obstructions, tangling or snagging of cabling, ease of use, bulk, etc.

Measures

The following measures will be collected during the experiment to provide a stress factor to simulate the sense of urgency found under operational conditions and to ensure soldiers are provided feedback on their performance on the subject P(Bid) System through objective measures only.

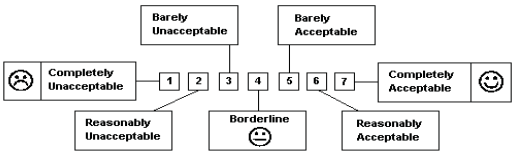
a. Compatibility Focus Questionnaire:

Evaluation soldiers will complete the following focus questionnaire on the compatibility of each P(Bid) System with various pieces of protective equipment.

PROTECTIVE EQUIPMENT

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability for the following equipment compatibility.



	Acceptability
Combat Clothing With Tactical Vest, Fragmentation Vest with Brassards, and Full Fighting Order	1 2 3 4 5 6 7
Range of Motion	○ ○ ○ ○ ○ ○ ○
Overall Ability to Use the Candidate P(Bid) System	○ ○ ○ ○ ○ ○ ○
Comfort (With the P(Bid) System)	○ ○ ○ ○ ○ ○ ○
Overall Compatibility of the P(Bid) System with Full Fighting Order	○ ○ ○ ○ ○ ○ ○
Helmet	1 2 3 4 5 6 7
Range of Motion	○ ○ ○ ○ ○ ○ ○
Overall Ability to Use the Candidate P(Bid) System	○ ○ ○ ○ ○ ○ ○
Comfort (With the P(Bid) System)	○ ○ ○ ○ ○ ○ ○
Overall Compatibility of the P(Bid) System with Full Fighting Order	○ ○ ○ ○ ○ ○ ○
BEW Protective Eyewear	1 2 3 4 5 6 7
Overall Ability to Use the Candidate P(Bid) System With Ballistic Eyewear (BEW)	○ ○ ○ ○ ○ ○ ○
Comfort (With the P(Bid) System)	○ ○ ○ ○ ○ ○ ○
Overall Compatibility of the P(Bid) System with BEW	○ ○ ○ ○ ○ ○ ○

	Acceptability						
CBRN Gas Mask With Carrier	1	2	3	4	5	6	7
Overall Ability to Use the Candidate P(Bid) System With C4 Respirator	○	○	○	○	○	○	○
Ability to Perform Masking Drill	○	○	○	○	○	○	○
Comfort (With the P(Bid) System)	○	○	○	○	○	○	○
Overall Compatibility of the P(Bid) System System with the C4 Respirator	○	○	○	○	○	○	○
Overall Acceptability	○	○	○	○	○	○	○

Test Stand #8 Handwear Compatibility

Conduct

This test stand will run as part of an over all compatibility series of test stands in a round-robin format and may be run concurrent to other compatibility test stand.

Objectives

This test stand will:

- Enable soldiers to evaluate candidate P(Bid) System in the manipulation of its controls, peripherals, and insertion/removal from MLCS pouches.
- Ensure soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Handwear Compatibility" requirement of the user acceptance performance specifications.

Protocol

Each candidate P(Bid) System compatibility clash will be identified and evaluated indoors at static test stands. Evaluation soldiers will be encouraged to adjust and configure their P(Bid) System to the best of their ability to accommodate the handwear prior to the test. All test stands will be evaluated while wearing the candidate P(Bid) System. Evaluation soldiers as a minimum will evaluate the P(Bid) System with one type of issues hardware.

Compatibility testing will evaluate a variety of operational activities as well as the ability of the user to functionally utilize the candidate P(Bid) System. Operational activities will include (but may not be limited to) retrieval of the pointing / tabbing device, operation of the pointing / tabbing device, retrieval of the P(Bid) System from the user's pocket or pouch, replacement of the P(Bid) System into the user's pocket or pouch, performing a COI change, using a wired (mandatory) or wireless (rated) PTT switch, and text entry. Evaluation soldiers will be required to rate the compatibility of each P(Bid) System with each of the selected handware items (if used).

Measures

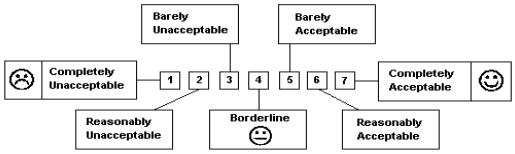
a. <u>Equipment and Clothing Compatibility Focus Questionnaire:</u>

   Evaluation soldiers will complete the following equipment and clothing compatibility questionnaire on the compatibility of each P(Bid) System

HANDWEAR

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the P(Bid) System while wearing the gloves as outlined below.



		Acceptability						
Hand wear – Temperate Combat Gloves		1	2	3	4	5	6	7
Assembling and Donning the P(Bid) System	n/a ○	○	○	○	○	○	○	○
Retrieval of Pointing / Tabbing Device		○	○	○	○	○	○	○
Operation of Pointing / Tabbing Device		○	○	○	○	○	○	○
Retrieval of P(Bid) System from Pocket / Pouch		○	○	○	○	○	○	○
Ability to Perform a Radio Frequency Change	n/a ○	○	○	○	○	○	○	○
Text Entry		○	○	○	○	○	○	○
Ability to Use Audio Display Wired PTT Switch		○	○	○	○	○	○	○
Ability to Use Audio Display Wireless PTT Switch	n/a ○	○	○	○	○	○	○	○
Overall Acceptability With This Glove		○	○	○	○	○	○	○
Hand wear – Lightweight Thermal Gloves		1	2	3	4	5	6	7
Assembling and Donning the P(Bid) System	n/a ○	○	○	○	○	○	○	○
Retrieval of Pointing / Tabbing Device		○	○	○	○	○	○	○
Operation of Pointing / Tabbing Device		○	○	○	○	○	○	○
Retrieval of P(Bid) System from Pocket / Pouch		○	○	○	○	○	○	○
Ability to Perform a Radio Frequency Change	n/a ○	○	○	○	○	○	○	○
Text Entry		○	○	○	○	○	○	○
Ability to Use Audio Display Wired PTT Switch		○	○	○	○	○	○	○
Ability to Use Audio Display Wireless PTT Switch	n/a ○	○	○	○	○	○	○	○
Overall Acceptability With This Glove		○	○	○	○	○	○	○

	1	2	3	4	5	6	7
Overall							
Overall Acceptability of Performing Above Tasks With Gloves in General	○	○	○	○	○	○	○

Test Stand #9 Other Equipment and Clothing Compatibility

Conduct

This test stand will run as part of an overall compatibility series of test stands in a round-robin format and may be run concurrent to other compatibility test stand.

Objectives

This test stand will:

- Provide a realistic equipment and clothing task to enable soldiers to evaluate candidate P(Bid) System for their equipment and clothing compatibility.

Protocol

Each P(Bid) System compatibility clash will be identified and evaluated in static test stands. Evaluation soldiers will be encouraged to adjust and configure their P(Bid) System to the best of their ability. All component of the test stand will be evaluated while wearing the P(Bid) System and full fighting order.

The static compatibility test stands will comprise the following pieces of equipment and clothing:

1. AN/PVS-14 (MNVG);
2. Utility Hydration Cover with water bladder;
3. CTS Small Pack, and
4. CTS Rucksack.

Compatibility testing will evaluate a variety of operational activities and remedial action drills. Evaluation soldiers will be required to rate the compatibility of each P(Bid) System condition with each of the selected equipment and clothing at each test stand.

Measures

The following measures will be collected:

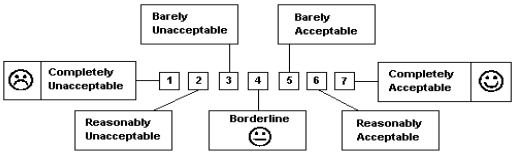
a. Equipment and Clothing Compatibility Focus Questionnaire:

Evaluation soldiers will complete the equipment and clothing compatibility focus questionnaire on the compatibility of each P(Bid) System design to a particular equipment or clothing system.

COMPATIBILITY OTHER

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability for the following equipment compatibility.



Equipment Compatibility	Acceptability 1 2 3 4 5 6 7
AN/PVS-14 (MNVG)	○ ○ ○ ○ ○ ○ ○
CTS Small Pack (With Load)	○ ○ ○ ○ ○ ○ ○
CTS Rucksack (With Load)	○ ○ ○ ○ ○ ○ ○
Utility Hydration Cover With Water Bladder	○ ○ ○ ○ ○ ○ ○
Overall Acceptability	○ ○ ○ ○ ○ ○ ○

Test Stand #10 Target Designation/Hand-off

Conduct

The test stand is meant to simulate the process of acquiring and handing off targets to other members within the section. Soldiers will evaluate the usability of the P(Bid) System and not their accuracy of assigning the location and or type of target.

Objectives

This test stand will:

- Provide realistic target environment to evaluate the P(Bid) System for their target designation capability (accuracy, speed, usability) to mission critical features.
- Evaluate candidate P(Bid) Systems for their capability to hand-off targets (accuracy, speed, usability).
- Ensure soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Target Designation / Hand-off Acceptability" requirement of the user acceptance performance specifications for an P(Bid) System target designation capability.

Target Designation / Hand-off

The first goal of this assessment is to evaluate P(Bid) Systems for their speed, and usability, in designating selected targets and mission-critical features as well as transmitting that information to other team members (hand-off targets).Up to three different fixed locations, situated to have as different a terrain, topography, vegetation type and density as possible, will be used to ensure that the learning effects of previous locations will be minimized. An example is shown in Figure 6.

Each evaluation soldier will be required to estimate the location of selected target features in three specified zones and enter it into the BMS. Next, the evaluation soldier will be required to determine from their system a ten figure Military Grid Reference System (MGRS) of their location. Given the MGRS coordinates of their location, the evaluation soldier will be instructed to provide the following:

1. The bearing to the target feature in mils.
2. The distance to the target feature in meters with the applicable device.
3. Plot/verify the location of the target feature on the map (the evaluation soldier will verbally state the target location via an eight-figure MGRS).
4. The evaluation soldier will then be prompted to exchange this information across the battle space to a P(Bid) Systems - enabled team member in accordance with the COI.

Once the evaluation soldier is ready to commence the target designation / hand-off task, a "GO" command will be issued by the HFO and the tasks will be timed using a stopwatch until the

transmission of the target designation location is received by the HFO. After the evaluation soldier completes designating each target they will fill out a Questionnaire.

Human Factors (HF) tests will include performance measures as well as the subjective utility and usability measures of the candidate P(Bid) System.

Targets

Evaluation soldiers will be required to designate an array of targets for this test stand. The potential targets may be the following:

- Military vehicles (actual and/or surrogate)
  - G-Wagon
  - LAVIII
  - M-11 BTR front 1:2 target
  - M-2 BMP flank 1:2 target
  - M-6 BRDM flank 1:2 target
- Plastic E 'waffle' target
- IED simulator
- Radio, camera, and/or water towers

A sample of these targets is shown below.

Figure 6: Sample Target Array

Measures

The following measures will be collected during the test stand to provide a stress factor to simulate the sense of urgency found under operational conditions and to ensure soldiers are provided feedback on their performance with the P(Bid) System.

a. Time to complete the target designation / hand-off task:

   Using a stopwatch, the HFO will measure the time it takes the soldier to acquire and transmit the target designation information to a satellite system.

b. Time to determine target location, bearing, and distance:

   Using a stopwatch, the HFO will measure the time it takes for the evaluation soldier to determine the target location, the target bearing, and the distance to the target, for each of the near, mid, and far targets.

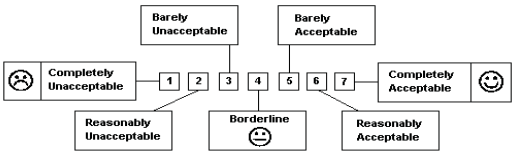
c. Focus Questionnaire:

   After the evaluation soldier has completed the target designation for the near, mid, and far targets for each particular location, they will be required to fill out the following focus questionnaire on various aspects of the target designation portion of the P(Bid) Evaluation.

TARGET HAND OFF

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the following features for the various target designation hand-off tasks.



	Acceptability
Own Position Determination	1 2 3 4 5 6 7
Ease of Locating Own Position on the Map	○ ○ ○ ○ ○ ○ ○
Time to Determine Own Location	○ ○ ○ ○ ○ ○ ○
Overall Effectiveness of the Method of Positioning	○ ○ ○ ○ ○ ○ ○
Target Designation	1 2 3 4 5 6 7
Time to Determine the Bearing to Enemy/Friendly Entities	○ ○ ○ ○ ○ ○ ○
Accuracy of Determining the Bearing to Enemy/Friendly Entities	○ ○ ○ ○ ○ ○ ○
Time to Determine the Distance to Enemy/Friendly Entities	○ ○ ○ ○ ○ ○ ○
Accuracy of Determining the Distance to Enemy/Friendly Entities	○ ○ ○ ○ ○ ○ ○
Time to Plot Enemy/Friendly Entities	○ ○ ○ ○ ○ ○ ○
Accuracy of Plotting Enemy/Friendly Entities	○ ○ ○ ○ ○ ○ ○
Speed of Sending Enemy/Friendly Entity Location (GR and bearing)	○ ○ ○ ○ ○ ○ ○
Ease of Sending Enemy/Friendly Entity Location (GR and Bearing)	○ ○ ○ ○ ○ ○ ○
Overall Effectiveness of Target Designation System	○ ○ ○ ○ ○ ○ ○
Overall Effectiveness of Target Had-Off System	○ ○ ○ ○ ○ ○ ○

	Acceptability
Usability	1 2 3 4 5 6 7
Ease of Learning the System	○ ○ ○ ○ ○ ○ ○
Ease of Operating the System	○ ○ ○ ○ ○ ○ ○
Overall Usability	○ ○ ○ ○ ○ ○ ○
Evaluation of System	1 2 3 4 5 6 7
Accuracy of the System	○ ○ ○ ○ ○ ○ ○
Confidence in the Designation System	○ ○ ○ ○ ○ ○ ○
Confidence in Handing-Off Enemy/Friendly Entity Location	○ ○ ○ ○ ○ ○ ○
Tactical Feasibility	○ ○ ○ ○ ○ ○ ○
Mental Workload	○ ○ ○ ○ ○ ○ ○
Overall Effectiveness of Target Designation Capability	○ ○ ○ ○ ○ ○ ○
Overall Effectiveness of Target Hand-Off Capability	○ ○ ○ ○ ○ ○ ○

Test Stand #11 Position and Situational Awareness

Conduct

The test stand is meant to simulate the process of finding a target and using the capabilities within of the P(Bid) System to coordinate and execute a manoeuvre.

Objectives

This test stand will:

- Provide field situations where P(Bid) System evaluation soldiers are separated by sufficient space and out of the line of sight to enable soldiers to evaluate candidate P(Bid) Systems for their Positional Awareness (PA) and Situation Awareness (SA) capabilities.
- Ensure evaluation soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Battle Management System PA/SA Acceptability" requirement of the user acceptance performance specifications for an P(Bid) System capability.

Evaluation soldiers will be required to separate both physically and visually from the members of their Section. Then one of the following operational areas will be used to guide soldier separation in testing.

	Open Terrain	Close Terrain	Urban
Section	100 m^2	Up to 50 m^2	1 building

Table 1: Operational Environment Spacing

Evaluation soldiers will be required to move through the terrain until asked to provide key position information using their P(Bid)System.

Outdoor Classroom

Evaluation soldiers will be required, when cued, to determine their 8-figure grid reference location and the bearing and distance to their teammates. One evaluation soldier will then be selected as "enemy." The "enemy" evaluation soldier will then be instructed to turn off his/her radio and not view his/her SA display, while endeavouring to escape and evade the other members of the team. The pursuers will track the "enemy" using their PA/SA display and coordinate their chase using the display and their radio communications. This exercise will be repeated at least twice so that all members can experience the "chase" role. By playing this game, evaluation soldiers will be required to use their PA/SA display to determine their own location and orient themselves to the ground, relate their display to the ground, spatially relate other members of the team to themselves, while simultaneously converging on a moving target, in a time-pressured situation. The intended result is the successful employment of the P(Bid) System to locate and coordinate a manoeuvre against the enemy.

Measures

The following measures will be collected during the experiment to provide a stress factor to simulate the sense of urgency found under operational conditions.

a. Own Position:
The location of the evaluation soldier will be tracked by an independent GPS and compared to the following results reported by the evaluation soldier:

b. Zoom Functionality:
HF observers will note the number of entities distinguished within a square area of 50 x 50 metres.

c. Position of Other Team Members:
HF observers will note the number of targets detected and engaged.
- Distance: Evaluation soldiers will be required to determine the distance to each of the other three team members.
- Bearing: Evaluation soldiers will be required to determine the bearing to each of the other three team members.

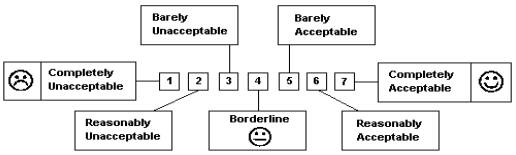
d. Location of Engaged Unit:
HF observers will note the number of targets detected and engaged.
- Distance: Evaluation soldiers will be required to determine the distance to the engaged Unit.
- Bearing: Evaluation soldiers will be required to determine the bearing to the engaged Unit.

e. Focus Questionnaire:
Evaluation soldiers will complete the following PA/SA focus questionnaire on the utility and usability of each P(Bid) System.

PA / SA

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the following features for the PA/SA Awareness tasks.



	Acceptability						
Information Transfer	1	2	3	4	5	6	7
Time Needed to Pass Text Information	○	○	○	○	○	○	○
Ease of Passing Text Information	○	○	○	○	○	○	○
Ease of Receiving Text Information	○	○	○	○	○	○	○
Ease of Distributing Information to the Whole Group	○	○	○	○	○	○	○
Accuracy of Information Passed	○	○	○	○	○	○	○
Within Section	1	2	3	4	5	6	7
Ease of Navigation	○	○	○	○	○	○	○
Coordination of Movement	○	○	○	○	○	○	○
Coordination of Fire	○	○	○	○	○	○	○
Coordination of Action	○	○	○	○	○	○	○
Issuing/Receiving Orders	○	○	○	○	○	○	○
Designating Targets	○	○	○	○	○	○	○
Sharing Information	○	○	○	○	○	○	○
Situation Awareness	1	2	3	4	5	6	7
Awareness of YOUR Location	○	○	○	○	○	○	○
Awareness of Location of the OTHER Team Members	○	○	○	○	○	○	○
Awareness of Enemy Location	○	○	○	○	○	○	○
Awareness of Enemy Status	○	○	○	○	○	○	○
Awareness of Team Tactical Situation	○	○	○	○	○	○	○
Zooming Function	○	○	○	○	○	○	○
Confidence in System	○	○	○	○	○	○	○

	Acceptability						
Mission Effectiveness	1	2	3	4	5	6	7
Section Teamwork	○	○	○	○	○	○	○
Ability to Achieve High Mission Tempo	○	○	○	○	○	○	○
Ability to Make Mission Timings	○	○	○	○	○	○	○
Ability to Maintain Stealth	○	○	○	○	○	○	○
Ability to Adapt to Unexpected Changes in Mission	○	○	○	○	○	○	○
Overall Mission Effectiveness	○	○	○	○	○	○	○
Overall Acceptability – PA/SA	○	○	○	○	○	○	○

Test Stand #12 BMS Navigation

Conduct

The test stand will be conducted during both the day and night. Bidders are welcome to attend the day Battle Management System (BMS) navigation only. Evaluation soldiers will evaluate the system in both open and closed terrain. Soldiers will be broken down in to fire team partners to conduct the navigation.

Objectives

This test stand will:

- Provide a realistic navigation wayfinding task to enable soldiers to evaluate candidate P(Bid) System systems for their navigation capability.
- Ensure soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Navigation Wayfinding Acceptability" requirement of the user acceptance performance specifications for the candidate P(Bid) System navigation capability.

Navigation Routes

Route plans will be used to ensure that the learning effects of previous missions will be minimized for each evaluation soldier (i.e. every evaluation soldier during the conduct of the UAPE will evaluate four different bid systems. The multiple cross country routes ensure that the learning effect is minimized by guaranteeing that soldiers always use different open country routes). Each route will be configured to have as similar terrain, vegetation and topography as possible. Soldiers will be instructed to follow the route trace provided on their P(Bid) System display as closely as possible. Evaluation soldiers will be instructed to enable/turn on the breadcrumb feature of their P(Bid) System to help record their accuracy in following the pre-planned routes. To assess the adaptability of each P(Bid) System navigation capability, route legs may be planned in such a way as to require the evaluation soldiers to confront and navigate around unexpected natural or simulated obstacles (e.g. swamps, ponds, etc.). This will require the soldier to depart from his/her route to avoid the obstacle and then use their navigation system to wayfind off their route to the next waypoint.

Measures

The following measures will be collected during the experiment to provide a stress factor to simulate the sense of urgency found under operational conditions:

a. <u>Navigation Performance:</u>
The route adopted by the soldier will be tracked by GPS and compared to the route plan to determine:

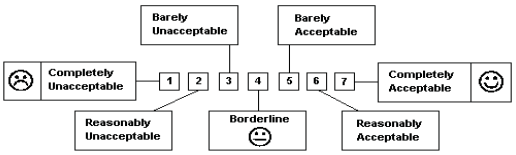
- Obstacle detour: For each obstacle, evaluation soldiers will be required to navigate around the obstacle in the most efficient manner. Actual track deviation from the most efficient route will be determined (rms deviation) and the total time to traverse the obstacle.
- Total distance traveled: Total distance traveled for each leg and totalled for each route will be determined and compared to the shortest possible distance (including obstacles).
- Accuracy of waypoint estimation: Evaluation soldiers will be required to determine the location of each waypoint prior to initiating their next leg. The distance from the actual waypoint location and the evaluation soldier's estimated waypoint location will be determined. The collective estimated waypoints will be configured to determine the off-set error at the destination.

b. Navigation Focus Questionnaire:
Evaluation soldiers will complete the following navigation focus questionnaire on the utility and usability of each P(Bid) System navigation capability.

BMS NAVIGATION

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the following features for the Navigation and Way finding tasks.



	Acceptability						
Terrain Visualisation for Planning	1	2	3	4	5	6	7
Readability of the Map Display	○	○	○	○	○	○	○
Ability to Visualize Distances	○	○	○	○	○	○	○
Ease of Using Map Functions	○	○	○	○	○	○	○
Mental Effort Required	○	○	○	○	○	○	○
Mental Workload	1	2	3	4	5	6	7
Physical Demand	○	○	○	○	○	○	○
Temporal Demand (Time Pressure)	○	○	○	○	○	○	○
Mental Demand (Perceiving / Thinking)	○	○	○	○	○	○	○
Effort	○	○	○	○	○	○	○
Frustration	○	○	○	○	○	○	○

	Acceptability						
Navigating Route	1	2	3	4	5	6	7
Awareness of Own Location	○	○	○	○	○	○	○
Ease of Way finding Route	○	○	○	○	○	○	○
Ease of Relating Map Display to Ground	○	○	○	○	○	○	○
Ease of Estimating Distance with system	○	○	○	○	○	○	○
Ease of Navigating Around Unforeseen Hazard	○	○	○	○	○	○	○
Ease of Locating Waypoints and Features	○	○	○	○	○	○	○
Speed of Traverse With System	○	○	○	○	○	○	○
Accuracy of System	○	○	○	○	○	○	○
Time Required to Use System While Navigating	○	○	○	○	○	○	○
Confidence in System	○	○	○	○	○	○	○
Overall Acceptability for Navigation	○	○	○	○	○	○	○

Test Stand #13 Detectability

Conduct

Run as an experiential workshop, soldiers will be given the time in a non-tactical environment to develop and test TTPs that reduce light emission of the P(Bid) System. At the conclusion of the workshop, soldiers will complete the focus questionnaire.

Objectives

This test stand will:

- Provide evaluation soldiers with an opportunity to develop Tactic Techniques and Procedures (TTPs) to employ the P(Bid) System while considering their detectability.
- Ensure soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Detectability" requirement of the user acceptance performance specifications.
- Provide realistic environments to evaluate candidate P(Bid) System for visual detectability (light leakage – the Evaluation Section will be divided in two and separated by approx 100 m, evaluation soldier will simulate the employment of the P(Bid) System with developed TTPs and the light emitted will be considered for the completion of the questionnaire..

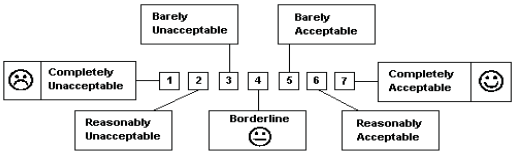
Measures

Upon completion of the light leakage test the evaluation soldiers will complete a task questionnaire.

DETECTIBILITY

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the P(Bid) System for detectibility.



	Acceptability
Light Leakage Assessment – Unaided Eye	1 2 3 4 5 6 7
Ease of Detecting Operator using P(Bid) System	○ ○ ○ ○ ○ ○ ○
Range of Detecting Operator Using P(Bid) System	○ ○ ○ ○ ○ ○ ○
Ease of Detecting Operator Carrying P(Bid) System	○ ○ ○ ○ ○ ○ ○
Overall Detectability of the P(Bid) System With an Unaided Eye	○ ○ ○ ○ ○ ○ ○
Light Leakage Assessment - NVGs	
Ease of Detecting Operator using P(Bid) System	○ ○ ○ ○ ○ ○ ○
Range of Detecting Operator Using P(Bid) System	○ ○ ○ ○ ○ ○ ○
Ease of Detecting Operator Carrying P(Bid) System	○ ○ ○ ○ ○ ○ ○
Overall Detectability of the P(Bid) System With NVGs	○ ○ ○ ○ ○ ○ ○
Overall Acceptability of the P(Bid) System for Visual Detectability during the Day	○ ○ ○ ○ ○ ○ ○

Test Stand #14 Auditory Display

Conduct

This test stand may be broken in to several short sub-stands (wooded terrain, OBUA and LAV III) to allow it to be effectively synchronized with other test stands.

Objectives

This test stand will:

- Provide realistic low-noise and high-noise environments to evaluate candidate P(Bid) System communication systems for their audio display capability.
- Evaluate candidate P(Bid) System communication systems in wooded, Operations in Built Up Areas (OBUA) and vehicle environments for their audio display capability.
- Ensure soldiers understand/appreciate the full range of HF factors to be considered in "Auditory Display Acceptability."

Evaluation soldiers will be paired and divided into two groups – speakers and listeners. Reports and Returns Scripts will be pre-formatted and will be provided in sufficient numbers to ensure scripts aren't memorized, eliminating learning a potential source of bias.

Wooded Terrain

Evaluation soldiers separation at a distance of 50 m non-line of sight with their respective partners. Once in position, the speakers will be required to recite and transmit over the radio a scripted Report / Return (CASEVACREQ / SITREP) to the listener, and the listener will be required to record the Report / Return on paper. Once completed, the evaluation soldiers will switch roles and a different Report / Return will be transmitted.

LAV III

As per the Wooded Terrain test, evaluation soldiers will conduct the same exercise in a high continuous noise environment. The soldier (speaker) will stand in the family hatch on the right side of the LAV III while the engine is idled on 'high', and will be required to recite and transmit over the radio a scripted Report / Return (EOD Incident Report) to the listener, and the listener will be required to record the Report / Return on paper. The listener will be located outside to the right of the LAV III but within the range of the LAV III engine noise (1 m perpendicular distance from the second front tire on the right side of the LAV III). Once completed, the evaluation soldiers will switch roles and a different Report / Return will be transmitted.

Figure 7: Audio Display Speech Intelligibility Evaluation - LAV III

OBUA

Evaluation soldiers will establish a minimum non-line of sight separation distance with their respective partners (exact distance and conditions TBD). Once in position, the speakers will be required to recite and transmit over the radio a scripted Report / Return (CONTACTREP / CALL FOR FIRE) to the listener, and the listener will be required to record the Report / Return on paper. Once completed, the evaluation soldiers will switch roles and a different Report / Return will be transmitted. Following this evaluation, evaluation soldiers will be required to complete a questionnaire and will return back to home base.

Measures

The following measures will be collected during the experiment to provide a stress factor to simulate the sense of urgency found under operational conditions and to ensure soldiers are provided feedback on their performance on the subject P(Bid) System through objective measures only.

a. Time:

   The time to recite the Report / Return and subsequent transcription of the Report / Return on paper by their respective partner will be recorded.

b. Performance:

   The transcribed Report / Return will be compared to the scripted Report / Return for each of the three environments for each evaluation soldier.

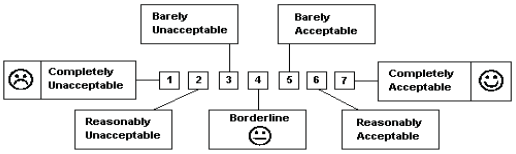
c. User's Focus Questionnaire:

   After the evaluation soldier has completed all three environments, they will complete the following focus questionnaire on various aspects of the audio display of each P(Bid) System.

AUDIO

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6
Please indicate if earplugs were worn during the task				Yes ○	No ○

Using the scale provided, indicate the acceptability of the following features for the audio display equipment.



	Acceptability
Physical Design	☹ 1 2 3 4 5 6 7 ☺
Fit of Radio Headset	○ ○ ○ ○ ○ ○ ○
Comfort of Radio Headset	○ ○ ○ ○ ○ ○ ○
Physical Effects	☹ 1 2 3 4 5 6 7 ☺
Physical Comfort During the Task	○ ○ ○ ○ ○ ○ ○
Skin Irritation of Radio Headset	○ ○ ○ ○ ○ ○ ○
Point Pressure from Radio Headset (i.e. Bruising)	○ ○ ○ ○ ○ ○ ○
Headaches	○ ○ ○ ○ ○ ○ ○
Nausea	○ ○ ○ ○ ○ ○ ○
Noise Comfort (Hearing Protection) During Task	○ ○ ○ ○ ○ ○ ○
Usability	☹ 1 2 3 4 5 6 7 ☺
Ease of Donning Headset	○ ○ ○ ○ ○ ○ ○
Security / Stability of Ear Pieces	○ ○ ○ ○ ○ ○ ○
Usability	○ ○ ○ ○ ○ ○ ○
Ruggedness	○ ○ ○ ○ ○ ○ ○

	Acceptability
Radio Communication – Voice Comms	1 2 3 4 5 6 7
Voice Comms in Wooded Environment	○ ○ ○ ○ ○ ○ ○
Voice Comms in LAV Environment	○ ○ ○ ○ ○ ○ ○
Voice Comms in OBUA Environment	○ ○ ○ ○ ○ ○ ○
Voice Comms (Clarity of Speech)	○ ○ ○ ○ ○ ○ ○
Voice Comms (Sound Delay)	○ ○ ○ ○ ○ ○ ○
Sound Volume	○ ○ ○ ○ ○ ○ ○
White Noise	○ ○ ○ ○ ○ ○ ○
Natural Hearing Restoration	1 2 3 4 5 6 7
Sound Localisation	○ ○ ○ ○ ○ ○ ○
Sound Discrimination	○ ○ ○ ○ ○ ○ ○
Overall Radio Headset	1 2 3 4 5 6 7
Physical Design	○ ○ ○ ○ ○ ○ ○
Physical Effects	○ ○ ○ ○ ○ ○ ○
Usability	○ ○ ○ ○ ○ ○ ○
Voice Comms Function	○ ○ ○ ○ ○ ○ ○
Natural Hearing Restoration	○ ○ ○ ○ ○ ○ ○
Overall Acceptability for Audio	○ ○ ○ ○ ○ ○ ○

Test Stand #15 Vehicle Compatibility

Conduct

This test stand may be broken in to several short sub-stands (LAV III and G Wagon) to allow it to be effectively synchronized with other test stands.

Objectives

This test stand will:

- Provide realistic static vehicle tasks to enable soldiers to evaluate P(Bid) Systems for their compatibility with the G-wagon and LAV family of vehicles.
- Ensure soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the "Vehicle Acceptability" requirement of the user acceptance performance specifications for P(Bid) System vehicle compatibility.

Combat Load

Evaluation soldiers will complete the vehicle compatibility test stand wearing the P(Bid) Systems over top of the Gen III fragmentation vest with the Combat loads identified below in the example loads for Commander and Rifleman as specified in RFP Volume 2 Annex CB Appendix 9.

Ballistic protective plates will be worn during the vehicle compatibility test stand. The exact number of magazines, etc. to be carried will be confirmed before the start of the demonstration.

Vehicle Tasks

Evaluation soldiers will be required to perform all of the following tasks for each of the positions with each of the P(Bid) Systems. Data collection will include questionnaires and performance measures.

G-wagon

The following is a list of tasks to be performed by the evaluation soldiers when evaluating the candidate P(Bid) System within the vehicle:

- Ingress/egress from drivers seat,
- Scanning route
- Assessing all driver controls,
- Emergency egress
- Scanning/ covering arcs
- Changing magazines
- Providing first aid and self aid

Air Sentry – LAV III

The following is a list of tasks to be performed by the evaluation soldiers when evaluating the candidate P(Bid) Systems within the air sentry crew position.

- Scanning/ covering arcs
- Scanning high sides
- Normal access/ egress (through family hatch, LAV ramp, LAV ramp hatch)
- Emergency access/ egress
- Engage targets at the side
- Engage targets at the back
- Engage targets at the front
- Open and close family hatch on LAV III
- Changing magazines

Measures:

The following measures will be collected during the experiment to provide a stress factor to simulate the sense of urgency found under operational conditions and to ensure soldiers are provided feedback on their performance on the subject P(Bid) Systems through objective measures only.

a. Ingress and Egress:

The time for each soldier to ingress and egress from each of the crew positions will be timed to add a sense of urgency

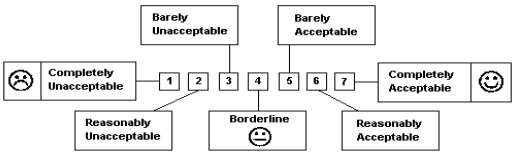
b. Vehicle Compatibility Questionnaire:

Evaluation soldiers will be required to complete a vehicle compatibility focus questionnaire on the utility and usability of each P(Bid) Systems only after both the LAV III and G-Wagon stands have been complete

VEHICLE COMPATIBILITY

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the compatibility of the P(Bid) System with the following tasks for each crew position as noted.



	Acceptability						
G-Wagon	1	2	3	4	5	6	7
Ingress / Egress	○	○	○	○	○	○	○
Scanning Route	○	○	○	○	○	○	○
Assessing All Vehicle Controls	○	○	○	○	○	○	○
Scanning / Covering Arcs	○	○	○	○	○	○	○
Changing Magazines	○	○	○	○	○	○	○
Overall Acceptability for G-Wagon	○	○	○	○	○	○	○

	Acceptability						
LAV III – Air Sentry	1	2	3	4	5	6	7
Scanning / Covering Arcs	○	○	○	○	○	○	○
Normal Access / Egress – Ramp	○	○	○	○	○	○	○
Normal Access / Egress – Ramp Hatch	○	○	○	○	○	○	○
Engage Targets at the Side	○	○	○	○	○	○	○
Engage Targets at the Back	○	○	○	○	○	○	○
Engage Targets at the Front	○	○	○	○	○	○	○
Open and Close the Family Hatch on the LAV III	○	○	○	○	○	○	○
Changing Magazines	○	○	○	○	○	○	○
Overall Acceptability for Air Sentry Tasks	○	○	○	○	○	○	○
Overall Acceptability Rating for Vehicle Compatibility	○	○	○	○	○	○	○

Test Stand #16 Configurability, Fit, and Adjustability

Conduct

Each evaluation soldier will be required to don the all of the listed MLCS configurations as noted below. Evaluation soldiers will exchange their MLCS with those of their section mates to be able to attempt the test stand below in all configurations.

Objectives

This test stand will:

- Assess the configurability of the P(Bid) Systems on the MLCS to meet the load carriage demands of a Commander, C9 Gunner, Grenadier, and Rifleman.
- Assess the fit and adjustability of the P(Bid) Systems mounted to the MLCS to accommodate a wide range of soldier sizes.
- Ensure soldiers understand/appreciate the full range of HF factors to be considered in the final evaluation of the configurability/modularity, fit and adjustability, combat load accessibility, and combat load capacity requirement of the user acceptance performance specifications.

Combat Load

Evaluation soldiers will complete the configurability, fit, and adjustability test stand while wearing the MLCS and the associated P(Bid) Systems over top of the Gen III fragmentation vest with the Combat loads identified as follows for Commander, Rifleman, Light Machine or C9 Gunner, and Grenadier:

Ballistic protective plates will be worn during this test stand. The exact number of magazines, etc., to be carried will be confirmed before the start of the demonstration.

Configurability

All evaluation soldiers will be required to configure their MLCS to their individual preference, using their appropriate fighting order and the P(Bid) System components. Within each test block evaluation soldiers will complete a configurability test stand where the evaluation soldiers will be required to re-configure their MLCS to the roles of a C9 Gunner and a M203 Grenadier. Evaluation soldiers will provide a configurability rating on the acceptability of the P(Bid) Systems to configure to other roles.

Fit and Adjustability

All evaluation soldiers will be required to properly adjust the P(Bid) Systems and MLCS to achieve the most desirable fit.

Measures

The following measures will be collected during the experiment.

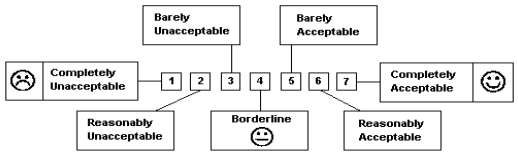
a. Focus Questionnaire:

Evaluation soldiers will complete the following focus questionnaire on achieving a proper fit and adjustability with the P(Bid) Systems. This will also consider combat load accessibility, configurability and capacity, and P(Bid) Systems configurability/modularity covering each of the following roles; Commander, Rifleman, Grenadier, and C9 Gunner.

MODULARITY AND FIT

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability for the P(Bid) System for modularity, configurability, fit and adjustability.



	Acceptability						
Modularity & Configurability of P(Bid) System	1	2	3	4	5	6	7
By Mission	○	○	○	○	○	○	○
By Role (Commander)	○	○	○	○	○	○	○
By Role (Grenadier)	○	○	○	○	○	○	○
By Role (C9 Gunner)	○	○	○	○	○	○	○
By Role (Rifleman)	○	○	○	○	○	○	○
By Load	○	○	○	○	○	○	○
By Preference / Handedness	○	○	○	○	○	○	○
Overall P(Bid) System Combat Load Modularity & Configurability	○	○	○	○	○	○	○
Combat Load Accessibility With P(Bid) System	1	2	3	4	5	6	7
Standing (Commander)	○	○	○	○	○	○	○
Standing (Grenadier)	○	○	○	○	○	○	○
Standing (C9 Gunner)	○	○	○	○	○	○	○
Standing (Rifleman)	○	○	○	○	○	○	○
Kneeling (Commander)	○	○	○	○	○	○	○
Kneeling (Grenadier)	○	○	○	○	○	○	○
Kneeling (C9 Gunner)	○	○	○	○	○	○	○
Kneeling (Rifleman)	○	○	○	○	○	○	○
Prone(Commander)	○	○	○	○	○	○	○
Prone(Grenadier)	○	○	○	○	○	○	○
Prone(C9 Gunner)	○	○	○	○	○	○	○
Prone(Rifleman)	○	○	○	○	○	○	○
Overall Combat Load Accessibility with P(Bid) System	○	○	○	○	○	○	○
Overall Combat Load Capacity with P(Bid) System	○	○	○	○	○	○	○

	Acceptability						
Fit & Adjustability of P(Bid) System	1	2	3	4	5	6	7
Fit with MLCS (Full Combat Load) and Combat Uniform Only	○	○	○	○	○	○	○
Fit with MLCS (Full Combat Load) and Gen III Fragmentation Vest	○	○	○	○	○	○	○
P(Bid) System Range of Adjustment	○	○	○	○	○	○	○
P(Bid) System Ease of Adjustment	○	○	○	○	○	○	○
Overall P(Bid) System Fit & Adjustability	○	○	○	○	○	○	○

Test Stand #17 Alarms/Alerts

Conduct

This test stand is solely the administration of the questionnaire. Each soldier will have already operated the P(Bid) System as well as having been trained by the Bidder on Alarms and Alerts. HFOs will interact with evaluation soldiers on this test stand to explain unfamiliar terminology on the survey (if required).

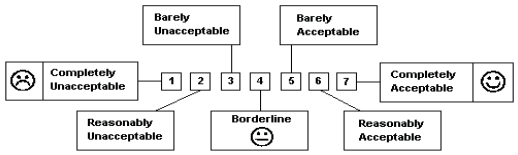
Alerts/Alarms Detection and Recognition

Evaluation soldiers will complete the following focus Alerts/Alarms questionnaire on the utility and usability of each P(Bid) System planning capability.

ALERTS AND ALARMS

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability of the following features for alerts and alarms.



	Acceptability VISUAL								Acceptability AUDITORY							
Ease of Detection	1	2	3	4	5	6	7	n/a	1	2	3	4	5	6	7	n/a
Low Battery	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Loss of GPS	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Loss of P(Bid) System Connection (Internal)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Recency of GPS Updates for Other Members in Assault Group	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Emergency Alert Received	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Normal Message Received	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Proximity Warning	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Ease of Recognition	1	2	3	4	5	6	7	n/a	1	2	3	4	5	6	7	n/a
Low Battery	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Loss of GPS	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Loss of P(Bid) System Connection (Internal)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Recency of GPS Updates for Other Members in Assault Group	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Emergency Alert Received	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Normal Message Received	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Proximity Warning	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Alert/Alarm Features	☹ 1 2 3 😐 4 5 6 ☺ 7	n/a	☹ 1 2 3 😐 4 5 6 ☺ 7	n/a
Ability to Maintain Stealth	○ ○ ○ ○ ○ ○ ○	○	○ ○ ○ ○ ○ ○ ○	○
Ability to Switch to Visual or Audio	○ ○ ○ ○ ○ ○ ○	○	○ ○ ○ ○ ○ ○ ○	○
Ability to Prioritize Alarms	○ ○ ○ ○ ○ ○ ○	○	○ ○ ○ ○ ○ ○ ○	○
Ability to Acknowledge	○ ○ ○ ○ ○ ○ ○	○	○ ○ ○ ○ ○ ○ ○	○
Ability to Turn Off or On in Settings	○ ○ ○ ○ ○ ○ ○	○	○ ○ ○ ○ ○ ○ ○	○
Effectiveness for Night Use	○ ○ ○ ○ ○ ○ ○	○	○ ○ ○ ○ ○ ○ ○	○
Overall Acceptability	○ ○ ○ ○ ○ ○ ○		○ ○ ○ ○ ○ ○ ○	

ENCLOSURE 4 TO ATTACHMENT 2 TO APPENDIX 2 TO ANNEX CB TO VOLUME 1

UAPE Stage 4 - Dynamic Test Stand

Introduction

During the UAPE, Canada will exercise the P(Bid) System in a Dynamic Test Stand (DTS) involving rifle sections within the context of a rifle platoon. This exercise will include both offensive and defensive operations in a force-on-force scenario for a 24 hour period.

Evaluation Soldiers will deploy for the duration of the Stage 4 without support from the Bidders (this includes all logistics, mentoring and training). The Evaluation Soldier sections will have in their possession the required LRUs and batteries for the entire mission and will have to troubleshoot and adapt to issues that arise with the P(Bid) system.

Objective

This test stand will:

- The aim of this exercise is to enable the Evaluation Soldiers to operate the P(Bid) System in an operational scenario that incorporates common infantry battle tasks in order to assist the soldiers in making an informed assessment on the level of acceptability of the P(Bid) System for use on operations.

Scope

Over the course of the five-day UAPE Block the first three days consist of instruction from the bidders in a static format and non-tactical test stands. On day three, each section commander will receive warning orders to allow he/she to commence planning and prepare for both the offensive and defensive tasks to be conducted over a 24 hour period (Day Four) by his/her section. Day 5 of UAPE will be DTS focus group with video review of their performance on the objective from the perspective of the enemy. The P(Bid) System activity expected to be covered during the DTS includes:

a. In both Offence and Defence the following are some of the common competencies that may be exercised and the use of the P(Bid) System is not limited to this list. Each Soldier within the Evaluation Section will be assigned to various roles within the section and therefore may or may not use each of the competencies listed below during the mission:

i. Conduct a 24 hours dismounted offensive/defensive mission;

ii. Configure the ISS hardware and MLCS for a 24 hour mission for operator comfort and usability;

iii. Configure the ISS hardware and MLCS for a 24 hour mission for weapon compatibility (C7A2, C9, C7A2 with M203);

iv. Plan and execute dismounted navigation (day/night);

v. Send voice messages (day/night);

vi. Receive voice messages (day/night);

vii. Send text messages (day/night);

viii. Receive text messages (day/night);

ix. Develop map overlays (day/night);

x. Save map overlays (day/night); and

xi. Hand Drawings (Draw/sketch) (day/night).

Conduct

Upon completion of Stage 2 and 3, the bidders will be given the opportunity to perform final maintenance/battery charging etc on their bid sets. The bidders will then provide the PE Company Quartermaster with the necessary batteries and LRUs as a part of the normal supply chain (first line) for the duration of the DTS. The soldiers will be required to be self-sufficient for a period of not less than 24 hours to include rations and water, and they must be able to carry all the batteries required for the duration of the mission. The bidders will not have access to their systems or the soldiers until the completion of the DTS.

Upon completion of the DTS the soldiers will return their systems as part of the post-exercise drills and the bidders will have access to their P(Bid) Systems as per section 7 “General Schedule,” Volume 1 Annex CB Appendix 2 Att 2 for maintenance checks. After a period of forced rest the soldiers will review their actions on the objective (from the perspective of the enemy) on video and complete the Final Scoring Questionnaire.

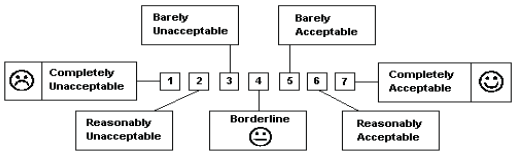
Conclusion

This high fidelity exercise will be the opportunity for the Evaluation Soldier to evaluate the bid P(Bid) System under full speed operation-like conditions, and render an informed decision on the system’s acceptability under operational conditions.

FINAL SCORING QUESTIONNAIRE

NAME		SUBJECT #		SERIAL #	
BIDDER (Circle ONLY One)					
1	2	3	4	5	6

Using the scale provided, indicate the acceptability for the overall system.



HF Requirements		Acceptability 1 2 3 4 5 6 7	n/a
System Assembly	System Assembly	○ ○ ○ ○ ○ ○ ○	○
Input Device Usability	Text Entry Capability	○ ○ ○ ○ ○ ○ ○	○
	Pointing / Selecting Controls	○ ○ ○ ○ ○ ○ ○	○
	Device Controls	○ ○ ○ ○ ○ ○ ○	○
Visual Displays	Day-Time Visual Display	○ ○ ○ ○ ○ ○ ○	○
	Night-Time Visual Display	○ ○ ○ ○ ○ ○ ○	○
Auditory Displays	Auditory Display Physical Design	○ ○ ○ ○ ○ ○ ○	○
	Voice Communications	○ ○ ○ ○ ○ ○ ○	○
	Natural Hearing Restoration	○ ○ ○ ○ ○ ○ ○	○
	Auditory Display Earplug Fit / Security / Stability	○ ○ ○ ○ ○ ○ ○	○
Graphical User Interface	System-Level Graphical User Interface	○ ○ ○ ○ ○ ○ ○	○
	User Interface Response Time	○ ○ ○ ○ ○ ○ ○	○
	BMS Navigation	○ ○ ○ ○ ○ ○ ○	○
	BMS Planning	○ ○ ○ ○ ○ ○ ○	○
	BMS – PA/SA	○ ○ ○ ○ ○ ○ ○	○
	Text Messaging	○ ○ ○ ○ ○ ○ ○	○
	Target Designation Usability	○ ○ ○ ○ ○ ○ ○	○

HF Requirements		Acceptability ☹ 1 2 3 4 5 6 7 ☺	n/a
	Target Hand-Off Usability	○ ○ ○ ○ ○ ○ ○	○
Mobility	Mobility	○ ○ ○ ○ ○ ○ ○	○
Compatibility	Personal Weapons Compatibility	○ ○ ○ ○ ○ ○ ○	○
	Platoon Weapons Compatibility	○ ○ ○ ○ ○ ○ ○	○
	PPE Compatibility	○ ○ ○ ○ ○ ○ ○	○
	Other Equipment Compatibility	○ ○ ○ ○ ○ ○ ○	○
	Vehicle Compatibility	○ ○ ○ ○ ○ ○ ○	○
	CBRN Compatibility	○ ○ ○ ○ ○ ○ ○	○
Compatibility - Handwear	Overall Handwear Compatibility	○ ○ ○ ○ ○ ○ ○	○
	Handwear – Audio Display Wired PTT	○ ○ ○ ○ ○ ○ ○	○
	Handwear – Audio Display Wireless PTT	○ ○ ○ ○ ○ ○ ○	○
Comfort	Body Physical Comfort	○ ○ ○ ○ ○ ○ ○	○
	Head / Ear Physical Comfort	○ ○ ○ ○ ○ ○ ○	○
	Thermal Comfort	○ ○ ○ ○ ○ ○ ○	○
Fit / Adjustability	Fit and Adjustability	○ ○ ○ ○ ○ ○ ○	○
Combat Load Compatibility	Combat Load Accessibility	○ ○ ○ ○ ○ ○ ○	○
	Combat Load Configurability / Modularity	○ ○ ○ ○ ○ ○ ○	○
	Combat Load Capacity	○ ○ ○ ○ ○ ○ ○	○
	ISS-S Component Modularity / Configurability	○ ○ ○ ○ ○ ○ ○	○
Detectability	Detectability	○ ○ ○ ○ ○ ○ ○	○

APPENDIX 4 TO
ANNEX CC TO VOLUME 1

ISS – A
User Acceptance Performance Evaluation (UAPE) Compliance Matrix

This Appendix details how the User Acceptance Performance Evaluation (UAPE) will be conducted and scored.

TABLE OF CONTENTS

1. UAPE in Basis of Selection 2
2. Conduct of the UAPE 2
3. Scoring Methodology 2
4. UAPE Compliance Matrices. 5

.

1. UAPE in Basis of Selection

1.1 As outlined in volume 1, part 4 - UAPE will be used as a component of the basis of selection.

2. Conduct of the UAPE

2.1 The UAPE has been designed to evaluate the requirements of the User Acceptance Performance Specification (UAPS). Intuitiveness of the P(Bid) systems, bidder led training, bidder assisted test stands and dynamic high fidelity simulation of a combat mission have been selected, sequenced and focused so as to provide a methodology to evaluate the requirements of the UAPS.

2.2 Stages. As described in Volume 1, Annex CB, Appendix 2, Attachment 2, the UAPE takes place in four stages (Inuitivity Test Stand, Bidder Led Training Stand, Bidder Assisted Test Stands and the Dynamic Test Stand). The stages have been ordered for evaluation soldiers to progress through; training, individual tasks, complex tasks, up to a full representative mission, using a "walk-before-you-run" philosophy. Progressive testing prepares the evaluation soldiers for the completion of the final scoring questionnaire

2.3 Test Stands. At the conclusion of each Test Stand evaluation soldiers will be required to complete a focus questionnaire, facilitated by the UAPE Human Factor Observers (HFOs), designed to ensure they have considered the full range of HF conditions and factors covered as they relate to the UAPS requirements.

2.4 Scoring Questionnaire. Once a candidate P(Bid) system has completed all Stages and associated Test Stands on the last day of a UAPE block, evaluation soldiers will be required to individually fill-in the final scoring questionnaire at Volume 1, Annex CB, Appendix 2.

3. Scoring Methodology

3.1 Scoring will be completed in two phases.

3.2 **Phase 1**. Phase 1 will first determine if bidders met all of the mandatory requirements.

3.3 The evaluation will be based on the minimum mandatory acceptance level as prescribed at Column number 7 of the Table 3 – UAPE Mandatory Criteria Compliance Matrix. Bidders must note that failure to achieve the minimum mandatory acceptance level for each UAPS mandatory requirement will result in no further consideration being given to the bid.

3.4 Minimum mandatory acceptance level. Where the Requirement Statement in column number 3 of Table 3 – UAPE Mandatory Criteria Compliance Matrix, includes the statement: "must be acceptable to soldiers for use under operational conditions", the Minimum Mandatory Acceptance Level has been established such that 75% of the soldiers evaluating the system during the UAPE

must rate it as a four (4) or higher on a seven (7) point Likert scale as detailed in the final scoring questionnaire. Failure to achieve the minimum mandatory acceptance level will result in a non-compliant bid.

3.5 Determination of minimum mandatory acceptance level. For each UAPS Requirement, compliance with the minimum mandatory acceptance level will be determined in the following manner:

a. on the final scoring questionnaire each Evaluation Soldier will assign a rating from 1 to 7 against each UAPS requirement;

b. the ratings from all Evaluation Soldiers will be compiled against each UAPS Requirement;

c. the number of same ratings from 1 to 7 (i.e. number of scores of 4, number of scores of 5, etc) will be totaled;

d. the total number of each rating will be used to determine compliance against the "acceptable to soldiers for use" minimum mandatory acceptance level criteria as illustrated in Section 3.6 below.

3.6 Example of Calculation of minimum mandatory acceptance level is provided at para 3.6.1 and 3.6.2 below.

3.6.1 Example Table for Requirement: Text Entry (UAPS 62)

Evaluator	**Rating Scale from Final Scoring Questionnaire**							**Total**
	1	**2**	**3**	**4**	**5**	6	7	
Soldier 1			**x**					
Soldier 2				**x**				
Soldier 3					**x**			
Soldier 4				**x**				
To ….								
Soldier 40					**x**			
Total # of Same ratings			**6**	**14**	**20**			**40**

Table 1 – Sample Calculation of minimum mandatory acceptance level

3.6.2 Calculation. For this example, the total number of evaluation soldier is 40. Based on the "Total # of same ratings" row, out of 40 evaluation soldiers, a total of 34 have evaluated the Text Entry Requirement with a rating of 4 or better. The acceptance level is therefore 34/40 or 85%. The acceptance level has been achieved.

3.6.3 Rounding rules as applied to minimum mandatory acceptance level. In the event of a score between 74% and 75% we shall apply the two following rules: If the first decimal place digit is 4, 3, 2, or 1, simply drop all digits to the right of the whole number. If the first decimal place digit is 5, 6, 7, 8, or 9 add one (1) to the whole number and drop all digits to the right of it.

3.6.4 Bids that have been deemed compliant to all mandatory requirements will proceed to Phase 2.

3.7 **Phase 2**. Bids that have first been determined compliant based on having met all of the mandatory requirements as determined at Table 3 - UAPE Mandatory Criteria Compliance Matrix, will be rated in Phase 2 based on Table 4 – UAPE Rated Criteria Compliance Matrix. The assigned score will be determined in the following manner:

a. Step 1. For each requirement, the Mean Score is calculated by calculating the Resulting Score for each rating and totaling the result. The Mean Score is then determined by dividing the Total Resulting Score by the number of evaluation soldiers. This is illustrated at Section 3.7.1 (Table 2). The Mean Score is entered in the Table 4 – UAPE Rated Criteria Compliance Matrix in Column 7 called “Mean Score”;

b. Step 2. In order to reflect the relative merit of each UAPS Requirement, the Mean Score is then multiplied by the requirement weighting factor found in column 8 of the Compliance Matrix to produce the final maximum score for each requirement that is inserted in Column 9 called “Max Score”; and,

c. Step 3. The Total Score of all requirements will be used in the Basis of Selection. This score will be noted at last row of the UAPE Compliance Matrix. This score will be entered into RFP Volume 1 Annex CJ table “Basis of Selection.”

3.7.1 UAPS Requirement: Text Entry score calculation example is presented at Table 2:

Evaluators	Rating from Final Scoring Questionnaire							Total	Step
	1	**2**	**3**	**4**	**5**	6	7		
Soldier 1			**x**						
Soldier 2				**x**					
Soldier 3					**x**				
Soldier 4				**x**					
To ….									
Soldier 40					**x**				
Total # of Same ratings			**6**	**14**	**20**			**40**	
Resulting Score			**18**	**56**	**100**			**174**	**1**
Mean Score	The Mean Score is determined by dividing the Total Resulting Score by the Total Number of Evaluators							**174/40 =4.35**	
Max Score	The Max Score is determined by multiplying the Mean Score by the weighing factor from Column 8 of the Compliance Matrix. In this case 4.35 (Mean Score) x 6 (weighing factor for UAPS Text Entry) = 26.1							**26.1**	**2**
Total Score	This is the total of all the Final Requirement's Scores Maximum Score 700							**Not Shown**	**3**

Table 2 – Sample Calculation of Final Score

4. UAPE Compliance Matrices.

4.1 The UAPE Compliance Matrices can be found at Tables 3 and 4 below. The Compliance Matrices will be filled out by the Crown at the completion of the UAPE.

TABLE 3 - UAPE Mandatory Criteria Compliance Matrix

1	2	3	4	5				6	7	8
Serial	Para	Requirement Statement	UAPS #	UAPE STAGES				Requirement Category	Min Mandatory Acceptance Level	Final Scoring Questionnaire Level
				Stage 1	Stage 2	Stage 3	Stage 4			
				Intuitivity	Bidder Led Training Stand	Bidder Assisted Test Stands	Dynamic Test Stand			
	1	**Hardware**	UAPS-142							
	1.2	**Input Device Usability**	UAPS-60							
	1.2.1	**Text Entry Capability**	UAPS-61							
1	1.2.1.0-1	The text entry capability of the ISS-S must be acceptable to soldiers for use under operational conditions.	UAPS-62		Educate	TS 2	X	M	75%	
	1.2.3	**Pointing / Selecting Controls**	UAPS-64							
2	1.2.3.0-1	The controls for pointing/selecting (includes tabbing, drawing, and menu selection) of the ISS-S must be acceptable to soldiers for use under operational conditions.	UAPS-65	X	Educate	TS 3	X	M	75%	
	1.2.4	**Device Controls**	UAPS-66							
3	1.2.4.0-1	The device controls (includes PTT and other hardware controls) of the ISS-S must be acceptable to soldiers for use under operational conditions.	UAPS-67		Educate	TS 3	X	M	75%	
	1.3	**Displays**	UAPS-69							
	1.3.1	**Daytime Visual Display**	UAPS-70							
4	1.3.1.0-1	The daytime visual display(s) of the ISS-S must be acceptable to soldiers for use under operational conditions.	UAPS-71		Educate	TS 5	X	M	75%	
	1.3.4	**Voice Communications**	UAPS-75							
5	1.3.4.0-1	The voice communication function of the ISS-S must be acceptable to soldiers for use under operational conditions.	UAPS-78		Educate	TS 14	X	M	75%	

1	2	3	4	5				6	7	8
Serial	Para	Requirement Statement	UAPS #	UAPE STAGES				Requirement Category	Min Mandatory Acceptance Level	Final Scoring Questionnaire Level
				Stage 1	Stage 2	Stage 3	Stage 4			
				Intuitivity	Bidder Led Training Stand	Bidder Assisted Test Stands	Dynamic Test Stand			
	2	**Software**	UAPS-143							
	2.1	**Graphical User Interface**	UAPS-83							
	2.1.3	**BMS Navigation**	UAPS-87							
6	2.1.3.0-1	The BMS Navigation function of the ISS-S must be acceptable to soldiers for use under operational conditions.	UAPS-88		Educate	TS 12	X	M	75%	
	2.1.4	**BMS Planning**	UAPS-89							
7	2.1.4.0-1	The BMS planning function of the ISS-S must be acceptable to soldiers for use under operational conditions.	UAPS-90		Educate	TS 4	X	M	75%	
	2.1.5	**BMS - PA/SA**	UAPS-91							
8	2.1.5.0-1	The BMS position and situation awareness function of the ISS-S must be acceptable to soldiers for use under operational conditions.	UAPS-92		Educate	TS 11	X	M	75%	
	3	**System Functionality**	UAPS-144							
	3.6.2	**Combat Load Configurability / Modularity**	UAPS-101							
9	3.6.2.0-1	ISS-S combat load modularity/configurability must be acceptable to soldiers wearing the ISS-S, for use under operational conditions.	UAPS-102		Educate	TS 16	X	M	75%	
	Table 3 – Total Score									

Table 4 – UAPE Rated Criteria Compliance Matrix.

1	2	3	4	5				6	7	8	9
Serial	Para	Requirement Statement	UAPS #	UAPE STAGES				Requirement Category	Mean Score	Weighting Factor	Max Score
				Stage 1	Stage 2	Stage 3	Stage 4				
				Intuitivity	Bidder Led Training Stand	Bidder Assisted Test Stands	Dynamic Test Stand				
	1	**Hardware**	UAPS-142								
	1.1	**System Assembly**	UAPS-54								
	1.1.1	**System Assembly**	UAPS-145								
1	1.1.1.0-2	The system assembly of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-153		Educate	TS 1		R		1	
	1.2	**Input Device Usability**	UAPS-60								
	1.2.1	**Text Entry Capability**	UAPS-61								
2	1.2.1.0-2	The text entry capability of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-154		Educate	TS 2	X	R		6	
	1.2.2	**Text Messaging**	UAPS-63								
3	1.2.2.0-1	The communication text messaging function of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-17		Educate	TS 2	X	R		6	
	1.2.3	**Pointing / Selecting Controls**	UAPS-64								
4	1.2.3.0-2	The controls for pointing/selecting (includes tabbing, drawing, and menu selection) of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-155	X	Educate	TS 3	X	R		6	
	1.2.4	**Device Controls**	UAPS-66								
5	1.2.4.0-2	The device controls (includes PTT and other hardware controls) of the ISS-S	UAPS-156		Educate	TS 3	X	R		6	

1	2	3	4	5				6	7	8	9
Serial	Para	Requirement Statement	UAPS #	UAPE STAGES				Requirement Category	Mean Score	Weighting Factor	Max Score
				Stage 1	Stage 2	Stage 3	Stage 4				
				Intuitivity	Bidder Led Training Stand	Bidder Assisted Test Stands	Dynamic Test Stand				
		should be completely acceptable to soldiers for use under operational conditions.									
	1.3	**Displays**	UAPS-69								
	1.3.1	**Daytime Visual Display**	UAPS-70								
6	1.3.1.0-2	The daytime visual display(s) of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-157		Educate	TS 5	X	R		4.8	
	1.3.2	**Night-time Visual Display Operation**	UAPS-72								
7	1.3.2.0-2	The night-time operation of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-158		Educate	TS 13	X	R		4.8	
	1.3.3	**Audio Display Physical Design**	UAPS-74								
8	1.3.3.0-1	The audio display(s) physical design of the ISS-S should achieve a high degree of user acceptance.	UAPS-9			TS 14	X	R		6	
	1.3.4	**Voice Communications**	UAPS-75								
9	1.3.4.0-2	The voice communication function of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-159		Educate	TS 14	X	R		3.6	
	1.3.5	**Natural Hearing Restoration**	UAPS-76								
10	1.3.5.0-2	The ability for the ISS-S audio display to provide natural hearing restoration (sound localisation and sound discrimination) should be completely acceptable to soldiers for use under operational conditions.	UAPS-160		Educate	TS 14	X	R		2.4	

1	2	3	4	5				6	7	8	9
Serial	Para	Requirement Statement	UAPS #	UAPE STAGES				Requirement Category	Mean Score	Weighting Factor	Max Score
				Stage 1	Stage 2	Stage 3	Stage 4				
				Intuitivity	Bidder Led Training Stand	Bidder Assisted Test Stands	Dynamic Test Stand				
	1.3.7	**Security / Stability**	UAPS-146								
11	1.3.7.0-2	The security/stability of the ISS-S Audio Display canalphones should be completely acceptable to soldiers for use under operational conditions.	UAPS-161		Educate	TS 14	X	R		1.5	
	2	**Software**	UAPS-143								
	2.1	**Graphical User Interface**	UAPS-83								
	2.1.1	**System-Level Graphical User Interface**	UAPS-84								
12	2.1.1.0-2	The system-level Graphical User Interface of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-162	X	Educate	TS 2,3,4,5,17,10	X	R		2.4	
	2.1.2	**User Interface Response Time**	UAPS-86								
13	2.1.2.0-1	The ISS-S user interface response time should be completely acceptable to soldiers under operational conditions.	UAPS-46	X		TS 2,3,4,5, 17,10	X	R		1	
	2.1.3	**BMS Navigation**	UAPS-87								
14	2.1.3.0-2	The BMS Navigation function of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-163		Educate	TS 12	X	R		6	
	2.1.4	**BMS Planning**	UAPS-89								
15	2.1.4.0-2	The BMS planning function of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-164		Educate	TS 4	X	R		5.25	
	2.1.5	**BMS - PA/SA**	UAPS-91								
16	2.1.5.0-2	The BMS position and situation awareness function of the ISS-S should be completely acceptable to soldiers for use	UAPS-165		Educate	TS 11	X	R		3	

1	2	3	4	5				6	7	8	9
Serial	Para	Requirement Statement	UAPS #	UAPE STAGES				Requirement Category	Mean Score	Weighting Factor	Max Score
				Stage 1	Stage 2	Stage 3	Stage 4				
				Intuitivity	Bidder Led Training Stand	Bidder Assisted Test Stands	Dynamic Test Stand				
		under operational conditions.									
	2.1.6	**Target Designation Usability**	UAPS-94								
17	2.1.6.0-2	The target designation capability of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-166		Educate	TS 10	X	R		2	
	2.1.7	**Target Hand-off Usability**	UAPS-96								
18	2.1.7.0-2	The target hand-off capability of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-167		Educate	TS 10	X	R		2	
	3	**System Functionality**	UAPS-144								
	3.1	**Mobility**	UAPS-103								
	3.1.1	**Mobility**	UAPS-149								
19	3.1.1.0-2	While wearing the ISS-S, dismounted soldier mobility should be completely acceptable to soldiers while under operational conditions.	UAPS-168				X	R		2	
	3.2	**Compatibility**	UAPS-112								
	3.2.1	**Personal Weapons Compatibility**	UAPS-113								
20	3.2.1.0-2	The ISS-S should be completely acceptable to soldiers under operational conditions with C7A2 and 9mm pistol.	UAPS-169			TS 6	X	R		2	
	3.2.2	**Platoon Weapons Compatibility**	UAPS-115								
21	3.2.2.0-2	The ISS-S should be completely acceptable to soldiers under operational conditions with C9A2, C7A2 M203, M72 SRAAW (L), grenade - fragmentation and smoke, CARL GUSTAV SRAAW (M).	UAPS-170			TS 6	X	R		1.5	
	3.2.3	**PPE Compatibility**	UAPS-117								

1	2	3	4	5				6	7	8	9
Serial	Para	Requirement Statement	UAPS #	UAPE STAGES				Requirement Category	Mean Score	Weighting Factor	Max Score
				Stage 1	Stage 2	Stage 3	Stage 4				
				Intuitivity	Bidder Led Training Stand	Bidder Assisted Test Stands	Dynamic Test Stand				
22	3.2.3.0-2	The ISS-S should be completely acceptable to soldiers under operational conditions with their Personnel Protective Equipment defined as: fragmentation vest with the CG634 and ballistic eyewear.	UAPS-171			TS 7	X	R		1	
	3.2.4	**Other Equipment Compatibility**	UAPS-124								
23	3.2.4.0-2	The ISS-S should be completely acceptable to soldiers under operational conditions with the PRC-152/148 radio, AN/PVS-14 (MNVG), CF hydration system, CTS small pack and CTS ruck sack,.	UAPS-172			TS 9	X	R		1	
	3.2.5	**Vehicle Compatibility**	UAPS-126								
24	3.2.5.0-2	The ISS-S should be acceptable to soldiers for use under operational conditions with the following vehicles: LUVW and LAV III.	UAPS-173			TS 15		R		1	
	3.2.6	**CBRN Compatibility**	UAPS-119								
25	3.2.6.0-1	The ISS-S should be completely acceptable to soldiers for use under operational conditions with the C4 gas mask, gas mask carrier and CF CBRN drills.	UAPS-139			TS 7		R		1	
	3.3	**Compatibility - Handwear**	UAPS-150								
	3.3.1	**Overall Handwear Compatibility**	UAPS-120								
26	3.3.1.0-2	The ISS-S should be completely acceptable to soldiers under operational conditions with the in-service gloves.	UAPS-174			TS 8	X	R		1.5	
	3.3.2	**Handwear - Audio Display Wired PTT**	UAPS-140								
27	3.3.2.0-1	The ISS-S Audio Display Wired PTT	UAPS-50		Educate	TS 8	X	R		1.0	

1	2	3	4	5				6	7	8	9
Serial	Para	Requirement Statement	UAPS #	UAPE STAGES				Requirement Category	Mean Score	Weighting Factor	Max Score
				Stage 1	Stage 2	Stage 3	Stage 4				
				Intuitivity	Bidder Led Training Stand	Bidder Assisted Test Stands	Dynamic Test Stand				
		Switch (as defined in TPS-4400) should be completely acceptable to soldiers for use under operational conditions with temperate combat gloves, Mortar gloves, and CBRN gloves.									
	3.3.3	**Handwear - Audio Display Wireless PTT**	UAPS-141								
28	3.3.3.0-1	The ISS-S Audio Display Wireless PTT (as defined in TPS-5027) should be completely acceptable to soldier under operational conditions for compatibility with temperate gloves, Mortar gloves, and CBRN gloves.	UAPS-123			TS 8	X	R		2	
	3.4	**Fit and Adjustability**	UAPS-105								
	3.4.1	**Fit and Adjustability**	UAPS-151								
29	3.4.1.0-2	The overall fit and adjustability of the ISS-S should be completely acceptable to soldiers for use under operational conditions.	UAPS-175		Educate	TS 16	X	R		3	
	3.5	**Comfort**	UAPS-107								
	3.5.1	**Body Physical Comfort**	UAPS-108								
30	3.5.1.0-2	The overall impact of the ISS-S on body physical comfort (below the neck) should be completely acceptable to soldiers for use under operational conditions.	UAPS-176			TS 16	X	R		1.5	
	3.5.2	**Head / Ear Physical Comfort**	UAPS-137								
31	3.5.2.0-1	The overall impact of the ISS-S on head (including ears) and neck comfort should be completely acceptable to soldier under operational conditions.	UAPS-138		Educate	TS 14	X	R		2.25	

1	2	3	4	5				6	7	8	9
Serial	Para	Requirement Statement	UAPS #	UAPE STAGES				Requirement Category	Mean Score	Weighting Factor	Max Score
				Stage 1	Stage 2	Stage 3	Stage 4				
				Intuitivity	Bidder Led Training Stand	Bidder Assisted Test Stands	Dynamic Test Stand				
	3.5.3	**Thermal Comfort**	UAPS-110								
32	3.5.3.0-1	The overall impact of the ISS-S on thermal comfort should be completely acceptable to soldiers for use under operational conditions.	UAPS-111				X	R		0.5	
	3.6	**Combat Load Compatibility**	UAPS-98								
	3.6.1	**Combat Load Accessibility**	UAPS-99								
33	3.6.1.0-2	Overall combat load accessibility should be completely acceptable to soldiers wearing the ISS-S, for use under operational conditions.	UAPS-177			TS 16	X	R		1.5	
	3.6.2	**Combat Load Configurability / Modularity**	UAPS-101								
34	3.6.2.0-2	ISS-S combat load modularity/configurability should be completely acceptable to soldier for use under operational conditions.	UAPS-178		Educate	TS 16	X	R		1.25	
	3.6.3	**Combat Load Capacity**	UAPS-131								
35	3.6.3.0-2	Overall combat load capacity should be completely acceptable to soldiers wearing the ISS-S, for use under operational conditions.	UAPS-179			TS 16	X	R		1.25	
	3.6.4	**ISS-S Component Modularity / Configurability**	UAPS-134								
36	3.6.4.0-1	ISS-S component modularity/configurability should be completely acceptable to soldiers wearing the ISS-S, for use under operational conditions.	UAPS-135		Educate	TS 16	X	R		1	
	3.7	**Detectability**	UAPS-128								

1	2	3	4	5				6	7	8	9
Serial	**Para**	**Requirement Statement**	**UAPS #**	**UAPE STAGES**				**Requirement Category**	**Mean Score**	**Weighting Factor**	**Max Score**
				Stage 1	**Stage 2**	**Stage 3**	**Stage 4**				
				Intuitivity	**Bidder Led Training Stand**	**Bidder Assisted Test Stands**	**Dynamic Test Stand**				
	3.7.1	**Detectability**	UAPS-152								
37	3.7.1.0-2	The overall impact of the ISS-S on detectability should be completely acceptable to soldiers, for use under operational conditions.	UAPS-180		Educate	TS 13	X	R		4	
	Table 4 – Total Score										