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**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.

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Defence Communications Division. (QD)

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Title - Sujet Radio- Assaulter	
Solicitation No. - N° de l'invitation W8476-226484/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client W8476-226484	Date 2021-07-05
GETS Reference No. - N° de référence de SEAG PW-\$\$QD-027-28270	
File No. - N° de dossier 027qd.W8476-226484	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM Eastern Daylight Saving Time EDT on - le 2021-08-03 Heure Avancée de l'Est HAE	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
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Signature	Date

This solicitation amendment 001 is raised to incorporate the questions and answers relating to the Request for Proposal as well as replace Annex A, Appendix 4 to Annex A, Technical Evaluation Matrix, Annex B Basis of Payment(English only).

1. The Request for Proposal questions and answers are hereby incorporated into this solicitation amendment:

Number	Question	Answer
1	The TSM waveform provides for dual simultaneous talk-group transmit and receive. Should it be assumed that the ISS-A Radio and V60 system must allow for simultaneous binaural (split between left and right ear) monitoring of two TSM talk-groups and simultaneous transmit across these talk-groups? For example, a Platoon or higher voice net would be assigned to the left ear while a Section net would be assigned to the right. The Operator could receive and/or transmit on either voice net (talk-group) at any given time.	As done with the current ISS capability, the Invisio V60 will be used by the commanders to simultaneously monitor the Platoon and Land Command Support System voice networks, with one network in each ear and using the commander radio, the PRC-163, to talk on both the command and assaulter networks. The assaulters will only use the Invisio V60 to monitor the Platoon voice network on the assaulter radio.
2	Section 4.1.2 “The ISS-A Radio must have a maximum data transfer rate of 16 MBps (1-hop).” MBps = Mega Bytes per second. TSM is only capable of 16 Mbps – or 16 Mega bits per second. There are 8 bits in a Byte...	Yes, this is a typo. The correct statement is “the ISS-A Radio must have a maximum data transfer rate of 16 Mega bits per second (Mbps)(1-hop).
3	Page 5 of 23 Annex A – statement of work. Definition of Radio Power Adapter states “and can also trickle charge a radio battery through the dismounted soldier system power source.” Is the highlighted text a requirement? The current integrated soldier system does not use a radio battery, and this was not planned for in our design.	Trickle charging a radio battery is not a requirement. This should be removed from the statement of work.

4	Appendix 2 Technical Requirements Specification – Section 1.2.1 Finish and Color – Request that “tan” be added as an acceptable finish for the cables.	Tan cables are acceptable as long as they have a non-reflective tan finish.
5	Annex A statement of work – Section 4.1.12 “The Integrated Soldier System-Assaulter Radio must be capable of using the TSM waveform in the frequency range of 225-450 MHz, while meeting all requirements specified in the document herein.” TSM operates in 225-450 MHz but at reduced bandwidths. 20 MHz wide channels are the maximum programmable in this band which does not comply with 4.1.14 “The ISS-A Radio must be configurable in increments from 1.2 MHz to 40 MHz. 40 MHz channels are supported at higher frequencies. For reference, all other performance criteria specified within the RFP (data rates over 1 hop, etc) are attainable over a 20 MHz channel in the 225-450 MHz band.	In the frequency range of 225-450 MHz, a maximum of 20 MHz bandwidth is acceptable for radio performance.
6	Annex A – Section 6.21.2 – This portion is missing from the compliance matrix table in Appendix 4 to Annex A.	<p>As this info is missing, Appendix 4 to Annex A should be amended with the following info:</p> <p>ISS-A Radio Specs 6.21.1. The ISS-A Radio must be configurable for EMCON 1 (electronic silence) and EMCON 2 (radio silence). The original abbreviation was incorrect- EMCOM. This should be EMCON, emission control.</p>

7	<p>The specification states in para 5.2.2 The ISS-A Radio must be compatible with rechargeable Land Warrior Batteries and in para 5.2.3 The ISS-A Radio must be compatible with non-rechargeable Land Warrior Batteries.</p> <p>Please define the specific part number, NSN, and description of the Rechargeable and Non-Rechargeable Land Warrior Batteries as there are multiple types.</p>	<p>The ISS uses the UltraLife rechargeable battery UBBL06 (LI-145), NSN 6140-01-542-4380 or the non-rechargeable UltraLife battery, UB0020 (LM-145), NSN 6135-01-583-8973. More information is available on the product websites.</p>
8	<p>Vendor asked for consideration on Section 2.1.1 from the technical compliance matrix. Would 83mm be acceptable for the width of the radio? Our data sheet lists 79mm, but this is at the middle of the radio. It is slightly wider at the top.</p>	<p>83mm width is acceptable.</p>

2. At Annex A

Delete: in its entirety

Insert: Annex A, attached.

3. At Appendix 4 to Annex A

Delete: in its entirety

Insert: Appendix 4 to Annex A, attached

4. At Annex B, Basic of Payment (**English only**), in Table 1 and Table 2 and error in quantity was made to Item 4, programming cable and should read 125 versus 1250.

Delete: in its entirety

Insert: Annex B, attached.

All other terms and conditions remain unchanged.



National Défense
Defence nationale

ANNEX A

Statement of Work (SOW)

For the Acquisition and Support of Integrated Soldier System Assaulter (ISS-A) Radio W8476-226484



NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées.

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1 SCOPE

1.1 Purpose

- 1.1.1 The purpose of this Statement of Work (SOW) is to specify the requirements for the acquisition and support of the Integrated Soldier System Assaulter (ISS-A) radio with associated cables. The ISS-A radio is the next generation radio for dismounted soldiers in an Assaulter role. The ISS-A radios are being procured as a replacement for the current fleet of Harris RF-7800S radios.

1.2 Background

- 1.2.1 The Integrated Soldier System Suite (ISS-S) is a system in use by the Canadian Armed Forces (CAF) that supports the mission of the dismounted soldier by providing situational awareness and better command execution. The basic configuration is composed of a Tactical User Interface (TUI), a radio, a network hub and a central battery. The ISS-A radio is an important component to the ISS-S as it provides both voice and data communication between soldiers and it automatically generates personal location information (PLI). The CAF is interested in upgrading the existing ISS-A radio in order to benefit from the latest technological advancements available today. In addition, the current assaulter radio (RF-7800S) is approaching end-of-life for support and cannot communicate with other radio models.

1.3 Intended Use

- 1.3.1 The ISS-A Radio will be used as part of the ISS-S. As it will be worn by dismounted soldiers, the ISS-A Radio will be exposed to adverse weather conditions. It will also be subject to various shocks induced from normal use.

1.4 List of Acronyms and Abbreviations

- 1.4.1 Table 1. List of Acronyms

Abbreviation	Description
ABCANZ	American, British, Canadian, Australian, and New Zealand
AWR	Additional Work Request
BIT	Built In Test
CAF	Canadian Armed Forces
COTS	Commercial-Off-The-Shelf
DND	Department of National Defence
EMCON	Emission Control
IAW	In Accordance With
ICD	Interface Control Document
ISS	Integrated Soldier System
ISS-A	Integrated Soldier System Assaulter
ISS-S	Integrated Soldier System Suite
NATO	North Atlantic Treaty Organization

Abbreviation	Description
NCAGE	NATO Commercial and Government Entity
NSN	NATO Stock Number
SMBus	System Management Bus
SOW	Statement of Work
TA	Technical Authority
TSM	Tactical, Secure Mobile Ad-Hoc Network
TSM-X	TSM-X denotes the TSM Waveform patented by Trellisware. The latest version is called TSM release 6.1.
TUI	Tactical User Interface
USB	Universal Serial Bus

1.5 Terminology

1.5.1 Table 2. Definitions

Term	Definition
Assaulter	A dismounted soldier in the battlefield.
ISS-A Radio	Next generation radio for soldiers in an assaulter role.
Built In Test	An integral capability of a device that provides an on-board test capability to detect, to diagnose, or isolate system failures.
Catastrophic Mishap Severity	Could result in death, permanent total disability, or irreversible environmental damage that violates law or regulation
Compatible	Able to be used together without causing malfunctions or a degradation of performance. Can be used with or without a specific piece of equipment (e.g.: antenna or cable), but without any software or hardware modification to the radio.
Critical Mishap Severity	Could result in permanent partial disability, injuries or occupational illness that may result in hospitalization, or reversible environmental damage causing a violation of law or regulation
Defect	A change in materiel characteristics, a Degradation of Performance, a Malfunction, or Physical Damage
Degradation of Performance	A situation where one or more requirements of this Statement of Work is not met.
Hub	A power and data distribution device. Contains multiple ports for connectivity to other devices.
Interface Control Document	Document that describes the interface(s) to a system or subsystem. It may describe the inputs and outputs of a single system or the interface between two systems or subsystems.

Term	Definition
Integrated Soldier System	A system that aims to improve command execution, target acquisition and situational awareness to soldiers on the battlefield. The basic configuration of the system consists of a radio, a TUI, a Hub, and a battery.
Integrated Soldier System Suite	All equipment that the soldier wears and carries, including the software, electronic equipment, cables, vest and pouches, batteries and any other components.
INVISIO® V60 Tactical Headset System	Headset push-to-talk adapter used to connect the headset to the radio audio port.
Land Warrior Batteries	Batteries meeting all requirements of one or more of the following Military Performance Specification: MIL-PRF-32271/15, MIL-PRF-32383/1, and MIL-PRF-32383/2.
Malfunction	A major failure in one or more of the following functions to all connected devices: a) Power distribution; b) Voice; and c) Data distribution.
Non-Operational State	An ISS-A Radio which has a TUI connected. The radio is powered down and is not distributing voice or data to all connected devices.
Operational State	An ISS-A Radio which has a battery and a TUI connected. The radio is powered by the battery, and distributes voice and data to all connected devices with no malfunction or degradation of performance.
Physical Damage	Harm caused to something which results in a degradation of performance.
Port	A connection point on an electronic device where another piece of equipment can be attached, often using a cable. In addition, antennas have dedicated ports.
Power port	Connection point on an electronic device where a SMBus compatible smart battery or a simple DC voltage input can be attached.
Radio port	Connection point on an electronic device where a Radio can be attached.
Radio Power Adaptor	Device that connects to a radio. Allows to power a radio through the centralized dismounted soldier system power source instead of the radio battery.
Tactical User Interface	A device comprising of an operating software, a touchscreen display, and computer processing circuitry.

APPLICABLE DOCUMENTS

RDIMS #5991047

Document Name: ISS-A Radio Annex A – Statement of Work
Page 5 of 23

Rev.: v5

2.1 References

2.1.1 The documents listed in this Section form part of the SOW. Unless otherwise specified, the issue or amendment of documents effective for this contract must be those in effect on the date of contract award.

2.1.2 DND Specifications, Standards and Publications

Reference Number	Promulgation Date	Reference Title
C-01-100-100/AG-005	2019-06-30	Acceptance of Commercial and Foreign Government Publications as Adopted Publications
D-02-002-001/SG-001	2003-04-01	Identification Marking of Canadian Military Property
D-01-400-002/SF-000	2018-07-31	Canadian Forces Specifications – Levels of Engineering Drawings

2.1.3 Other Standards and Publications

Reference Number	Promulgation Date	Reference Title
MIL-PRF-32271/15	2010-06-09	Performance Specification Sheet: Battery, Non-Rechargeable, Lithium, available at everyspec.com/MIL-STD
MIL-PRF-32383/1	2010-06-11	Performance Specification Sheet: Battery, Rechargeable, Lithium, available at everyspec.com/MIL-STD
MIL-PRF-32383/2	2010-06-11	Performance Specification Sheet: Battery, Rechargeable, Lithium, available at everyspec.com/MIL-STD
MIL-STD-461G	2015-12-11	Interface Standard: Requirements for the control of electromagnetic interference characteristics of subsystems and equipment, available at everyspec.com/MIL-STD
MIL-STD-464C	2010-12-01	Interface Standard: Electromagnetic environmental effects requirements for systems, available at everyspec.com/MIL-STD
MIL-STD-810H	2019-01-31	Test Method Standard: Environmental Engineering Considerations and Laboratory Tests, available at everyspec.com/MIL-STD
MIL-STD-1472G	2019-01-17	Design Criteria Standard: Human Engineering, available at everyspec.com/MIL-STD
MIL-STD-1686C	1995-10-25	Standard Practice: Electrostatic discharge control program for protection of electrical and electronic parts, assemblies and equipment (excluding electrically initiated explosive devices), available at everyspec.com/MIL-STD

Reference Number	Promulgation Date	Reference Title
NWPAN-WP-01112013	2017-10-20	Nett Warrior Interconnect Architecture White Paper, version 6, available at https://apps.dtic.mil/dtic/tr/fulltext/u2/1011122.pdf
SMBus	2018-04-19	System Management Bus (SMBus) Specification, available at smbus.org
USB 2.0	2000-04-27	Universal Serial Bus (USB) Revision 2.0 Specifications, available at www.usb.org
N/A	July 2017	Travel Directive, National Joint Council, available at www.njc-cnmc.gc.ca/directive/d10/v238/en

2.2 Order of Precedence

- 2.2.1 In the event of a conflict between the content in this SOW and the referenced documents, the content of this SOW must take precedence.

3.0 REQUIREMENTS

3.1 Scope of Work

- 3.1.1 The Contractor must supply ISS-A Radios, Antennas, Programming Software and Cables that meet all the requirements identified in Appendices 1 and 2. Quantity for each item is specified in section 9.
- 3.1.2 The Contractor must organize a Kick-off meeting.
- 3.1.3 The Contractor must provide Interface Control Documents for the ISS-A Radios and Cables.
- 3.1.4 The Contractor must provide Technical Data for the ISS-A Radios and Cables.
- 3.1.5 The Contractor must provide and install Identification Plates.
- 3.1.6 The Contractor must provide User and Maintenance Manuals for the ISS-A Radio, including radio operation, first line maintenance and programming instructions for supported waveforms.
- 3.1.7 The Contractor must provide support in accordance with (IAW) section 5
- 3.1.8 The contractor must provide Technical Investigation and Engineering (TIES) services as applicable IAW section 6.

4.0 MEETINGS

4.1 Kick-off Meeting

- 4.1.1 The Kick-off meeting must take place within twenty-eight (28) working days after contract award (or mutually agreed upon dates). Canada and their designated representatives

will participate in the Kick-off meeting. The purpose of this meeting is to review the specific contract documents.

4.2 Meeting Minutes

- 4.2.1 The meeting minutes must be recorded and prepared by the Contractor.
- 4.2.2 The meeting minutes must provide a summary of the discussion and key decision points established during the meeting.
- 4.2.3 Signature blocks for both Contractor and Canada responsible representatives are required on the Kick-off meeting minutes.
- 4.2.4 The meeting minutes must be provided to Canada no later than five (5) working days after the Kick-off meeting.

5.0 INTEGRATED LOGISTIC SUPPORT

5.1 Interface Control Documents

- 5.1.1 The ICDs for the ISS-A Radio, Cables, and Accessories must include the following information:
 - a) Connector part number and manufacturer;
 - b) Connector Pin-out and Pin description;
 - c) Cable wiring diagrams; and
 - d) Connector technical drawings.
- 5.1.2 There is a requirement to integrate the Assaulter Radio with the Integrated Soldier System Suite, after contract award. It is therefore mandatory to work with ISSP third party Contractors such as Glenair Inc, Rheinmetall Canada Inc. etc. The Contractor must provide the hardware and software Interface Control Documents, in sufficient detail, to the DND TA and to Canada's Soldier System Contractor(s) for integration purposes only, including, but not limited to, the data nature and type available via interface. The Interface Control Documents must be provided to the DND TA no later than 30 days after contract award (or mutually agreed upon dates).

5.2 Technical Data

- 5.2.1 Technical Data for the ISS-A Radios and Cables must be:
 - a) Engineering drawing (minimum level 2 - in accordance with D-01-400-002/SF-000), or
 - b) Industrial specification data / information sheets from the true (Design Control) manufacturer.

- 5.2.2 The Technical Data must clearly provide the following information:

- a) Item Name;

- b) The manufacturer's unique part number;
- c) The Design Control Authority NCAGE code, or their full name and address;
- d) Dimensions and tolerances;
- e) Materials;
- f) Protective coating (if applicable) and surface color and finish;
- g) Performance data, including the environmental and operating conditions under which the item must perform;
- h) Electrical characteristics; and
- i) Special features which contributed to the uniqueness of the item.

5.2.3 Canada will provide the Contractor with a list of applicable NSNs within sixty (60) working days after the reception and acceptance of the Technical Data Package.

5.2.4 Once received from Canada, the Contractor must update all applicable documentation with the NSN identifier.

5.3 Equipment Identification Plate Data and Markings

5.3.1 The Contractor must provide identification plates for the ISS-A Radio, Cables, and all Accessories in accordance with Canadian Forces Standard D-02-002-001/SG-001: Identification Marking of Canadian Military Property.

5.3.2 The identification plates must be affixed to the ISS-A Radio and all associated cables.

5.3.3 The identification plates must be sent to Canada for approval prior to their production.

5.3.4 The Contractor must allow ten (10) working days for the review of the identification plates.

5.4 User and Maintenance Manuals

5.4.1 User and Maintenance Manuals must be in accordance with Canadian Forces Standard C-01-100-100/AG-006 Specification Acceptance of Commercial and Foreign Government Publications as Adopted Publications.

5.4.2 User and Maintenance Manuals must be in English and in French.

5.4.3 User and Maintenance Manuals must be in searchable PDF format and be delivered to the Technical Authority.

6.0 ADDITIONAL WORK REQUESTS (DND 626)

6.1 Additional Work

- 6.1.1 There may be a requirement for additional work to be performed, including TIES tasks to address new dismounted soldier requirements. This requirement encompasses work that is over and above the current Contract requirements, but is within the scope of the work. Work to be performed could include modifications of equipment provided, test studies or even radio repair. The manner in which this work will be accomplished is via an Additional Work Request (AWR). An AWR will be implemented in accordance with the Contract Articles of Agreement, using the form DND 626 Task Authorization. Pricing will be determined using the rates and mark-ups contained in the Basis of Payment at Annex B.

6.2 Travel and Living Expenses

- 6.2.1 Where the satisfactory performance of approved Additional Work Requests Entails Travel and Living Expenses, the Contractor will be reimbursed for these expenses reasonably and properly incurred in the performance of the Work. The reimbursement will be at cost without allowances for profit and/or administrative overhead. The reimbursement will be in accordance with the Treasury Board Travel Directive or the Contractor's internal policies, whichever is less. The applicable items in the Treasury Board Travel Directive are:
- a) The provisions in the directive referring to "travelers", rather than those referring to "employees"; and
 - b) The meal, private vehicle and incidental expenses provided in Appendices B, C and D.

7.0 QUALITY ASSURANCE

- 7.1.1 Contractor must have one or more of the following certifications:
- a) ISO 9001; or
 - b) AS9100D

8.0 ACCEPTANCE PROCESS CRITERIA

- 8.1.1 The firm quantity of ISS-A Radios, Cables, Technical Data, and the Interface Control Documents must be delivered to Canada for integration and testing.
- 8.1.2 The ISS-A radio must comply with the technical requirements found in Appendix 1 of this Annex.

9.0 DELIVERABLES

9.1 Firm Quantities

9.1.1 List of deliverables

Item Number	Item Description	Firm Quantity	Delivery Date
1	ISS-A Radio. This includes the power adapter, GPS antenna, wide-band RF antenna (225-450 and 1250-2600 MHz), programming software and TSM license.	1250	No later than thirty (30) weeks after the Kick-off meeting.
2	Audio cable (for INVISIO® V60 Tactical Headset System)	1250	No later than thirty (30) weeks after the Kick-off meeting.
3	Data Cable	1250	No later than thirty (30) weeks after the Kick-off meeting.
4	Programming cable	125	No later than thirty (30) weeks after the Kick-off meeting.

9.2 Option Quantities

9.2.1 Options are not firm orders. Canada may or may not exercise one or all items within the table at clause 9.2.2. The Optional Requirements do not in any way constitute a commitment on behalf of Canada. Canada may exercise the quantities at any time throughout the exercised Optional years. Once the maximum quantities have been ordered, there will only be services via AWR's/DND 626's.

9.2.2 List of deliverables (option quantities)

Item Number	Item Description	Option Quantity (up to)	Delivery Date
1	ISS-A Radio. This includes the power adapter, GPS antenna, wide-band RF antenna (225-450 and 1250-2600 MHz), and programming software.	1250	No later than thirty (30) weeks after the Kick-off meeting.
2	Audio cable (for INVISIO® V60 Tactical Headset System)	1250	No later than thirty (30) weeks after the Kick-off meeting.
3	Data Cable	1250	No later than thirty (30) weeks after the Kick-off meeting.
4	Programming cable	125	No later than thirty (30) weeks after the Kick-off meeting.

APPENDIX 1 – TECHNICAL REQUIREMENT SPECIFICATION – ISS-A RADIO

1.0 GENERAL REQUIREMENTS

1.1 Non-Developmental Item

1.1.1 ISS-A Radio must be:

- a) Of proven (tested) design;
- b) In current production;
- c) Be in-use by a NATO or ABCANZ mbr armed forces; and
- d) Provided with Identification Plates and Linear Barcode Symbologies.

2.0 PHYSICAL REQUIREMENTS

2.1 Size

2.1.1 Dimensions of ISS-A Radio (minus antennas and power adapter) must not exceed the following measurements:

- a) Length: 140 mm;
- b) Width: 83 mm; and
- c) Thickness: 50 mm.

2.2 Weight

2.2.1 The weight of the ISS-A Radio (minus antennas and power adapter) must not exceed 600g.

2.3 Finish and Color

2.3.1 The ISS-A Radio must have a:

- a) Non-reflective flat green finish;
- b) Non-reflective flat black finish;
- c) Non-reflective flat brown finish;
- d) Non-reflective flat tan finish; or
- e) Non-reflective flat gray finish.

3.0 INTERFACE REQUIREMENTS

3.1 Connectors

3.1.1 All ISS-A Radio data/power ports must be equipped with connectors that mate with the connectors specified in Nett Warrior Interconnect Architecture White Paper (NWPAN-WP-01112013) version 6, Table IV.

- 3.1.2 The ISS-A Radio audio port must be equipped with connectors that mates with the INVISIO® V60 Tactical Headset System connector.
- 3.1.3 The ISS-A Radio must provide power to the INVISIO® V60 Tactical Headset System.

3.2 Ports

3.2.1 General

- 3.2.1.1 The ISS-A radio data port must be compliant with Universal Serial Bus (USB) Revision 2.0 Specifications or Ethernet.
- 3.2.1.2 The ISS-A radio power and data ports must be equipped with connectors that mates with the connectors specified in Nett Warrior Interconnect Architecture White Paper (NWPAN-WP-01112013) version 6, Table IV.
- 3.2.1.3 The ISS-A Radio must have a RF antenna port.
- 3.2.1.4 The ISS-A Radio must have a GPS antenna port.

3.2.2 Power Port

- 3.2.2.1 The power port must accept the input voltage range of 10 to 16.8 VDC.
- 3.2.2.2 The power and ground connections on the ISS-A Radio ports must be rated for no less than 5 Amps.

4.0 FUNCTIONAL REQUIREMENTS

4.1 Compatibility

- 4.1.1 ISS-A Radio must be interoperable (voice and data) with other radios using TSM waveform (release 6.1 or later);
- 4.1.2 The ISS-A Radio must have a maximum data transfer rate of 16 Mbps (1-hop);
- 4.1.3 The ISS-A Radio must have a range of at least 500 meters (1-hop) over all frequency ranges;
- 4.1.4 The ISS-A Radio must have the capability to relay up to 8 hops between other ISS-A radios (voice and data);
- 4.1.5 The ISS-A Radio must be interoperable (voice and data) with other ISS-A radios when in a GPS-denied environment, such as inside buildings or vehicles with no clear view of GPS satellites;
- 4.1.6 The ISS-A Radio must be interoperable (voice and data) with the AN/PRC-163 Leader Radio using the TSM-X waveform;

- 4.1.7 The ISS-A Radio must be capable of using commercial GPS;
- 4.1.8 The ISS-A Radio must support up to 200x users on the same network;
- 4.1.9 The ISS-A radio must include network planning and monitoring software for use on a Windows 10 computer
- 4.1.10 The ISS-A Radio must be capable of being zeroized by the local user;
- 4.1.11 The ISS-A Radio must be capable of being zeroized remotely;
- 4.1.12 The ISS-A Radio must be capable of using the TSM waveform (release 6.1 or later) in the frequency range of 225 to 450 MHz (UHF Band), while meeting all requirements specified in the document herein;
- 4.1.13 The ISS-A Radio must be capable of using the TSM waveform (release 6.1 or later) in the frequency range of 1250 to 2600 MHz (S Band), while meeting all requirements specified in the document herein;
- 4.1.14 ISS-A Radio bandwidth must be configurable in increments from 1.2 MHz to 40 MHz.
- 4.1.15 The ISS-A radio must be a type 3 (commercial AES 256) crypto device.

4.2 Data Exchange

- 4.2.1 The ISS-A radio must be configurable and operate over a minimum of USB 2.0 or Ethernet.
- 4.2.2 The ISS-A Radio must be compatible with a EUD running the ATAK software application.

5.0 SUSTAINABILITY REQUIREMENTS

5.1 Reliability

- 5.1.1 The ISS-A Radio must have a Mean Time Between Failures (MTBF) of not less than 5,000 hours.

5.2 Power

- 5.2.1 The ISS-A Radio must draw no more than 5 Amps (peak power) when connected to a single power source with no other devices connected.
- 5.2.2 The ISS-A Radio must be compatible with rechargeable Land Warrior Batteries.
- 5.2.3 The ISS-A Radio must be compatible with non-rechargeable Land Warrior Batteries

5.3 Built In Test (BIT)

- 5.3.1 The ISS-A Radio must perform a BIT during initial system power up.

5.3.2 Failure of the BIT must be communicated to the user.

5.4 Recovery from Electrical Faults

5.4.1 The ISS-A Radio must recover automatically from an over-voltage when the fault is removed.

5.4.2 The ISS-A Radio must recover automatically from an over-current when the fault is removed.

6.0 ENVIRONMENT CONDITIONS

6.1 General

- 6.1.1 The ISS-A Radio must meet all performance requirements of this Technical Requirement Specification without incurring one or more defects during and after exposure to any combination of the meteorological and induced climatic conditions described in this section: Physical Damage, Malfunction, and Degradation of Performance.

6.2 Low Pressure (Altitude)

- 6.2.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to all altitudes from sea level to 4572 meters.

6.3 High Temperature - Operation

- 6.3.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to all high temperature environments associated with the A1 (+49°C max) climatic regions as described in MIL-STD-810H.

6.4 High Temperature - Storage

- 6.4.1 The ISS-A Radio must be stored without incurring one or more defects during and after being exposed to all high temperature environments associated with the and A1 climatic regions as described in MIL-STD-810H.

6.5 Low Temperature - Operation

- 6.5.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to all low temperature environments associated with a C1 climatic region as described in MIL-STD-810.

For this requirement, the lower boundary of the C1 climatic region will be evaluated at -30°C.

6.6 Low Temperature - Storage

- 6.6.1 The ISS-A Radio must be stored without incurring one or more defects during and after being exposed to all low temperature environments associated with a C1 climatic region as described in MIL-STD-810.

For this requirement, the lower boundary of the C1 climatic region will be evaluated at -30°C.

6.7 Temperature Shock

- 6.7.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to conditions of rapid changes in ambient air temperature as encountered during movements between in-door environments and out-door environments at either high temperature (+49°C) and low temperature (-30°C) extremes, as described in MIL-STD-810H.

For this requirement, the ISS-A Radio did not require any physical modifications or preparations in advance.

6.8 Contamination by Fluids

- 6.8.1 The The ISS-A Radio must operate without incurring one or more defects during and after being exposed with the fluids listed in Appendix 3 – Fluids List.

6.9 Solar Radiation (Sunshine)

- 6.9.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed in all high solar radiation environments associated with A1 climatic regions as described in MIL-STD-810H.

6.10 Rain

- 6.10.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to conditions of rainfall exposure of a minimum 1.7 mm/min as described in MIL-STD-810H.

6.11 Humidity

- 6.11.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to all high humidity environments associated with B1, B2 and B3 climatic regions as described in MIL-STD-810H.

6.12 Fungus

- 6.12.1 The ISS-A Radio must not contain materials that support fungus growth.

6.13 Salt fog

- 6.13.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to a salt fog atmosphere.

6.14 Sand and Dust

- 6.14.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to a blowing sand and dust environment.

6.15 Explosive Atmosphere

- 6.15.1 The ISS-A Radio must not constitute a hazard in an explosive environment.

6.16 Water Immersion

- 6.16.1 During and after a water immersion of one (1) meter depth for a minimum of 30 minutes, the ISS-A Radio must:

- a) not allow water or moisture ingress; and
- b) operate without incurring one or more defects.

6.17 Vibration

- 6.17.1 The ISS-A Radio must operate without incurring one or more defects after and during being exposed to vibrations of military ground vehicles.

6.18 Functional Shock

- 6.18.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to shocks associated with dismounted soldier operations.

6.19 Transit Drop

- 6.19.1 The ISS-A Radio must operate without incurring one or more defects during and after experiencing 1.22m drops.

6.20 Electric field, radiated susceptibility

- 6.20.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to an electrical field of 50V/m at frequencies of 2MHz to 18GHz.

6.21 Emission Control (EMCON)

- 6.21.1 The ISS-A Radio must meet the EMCON requirement from section 5.14 of MIL-STD-464C. Frequencies tested are outside of 225-2600MHz frequency range.
- 6.21.2 The ISS-A Radio must be configurable for EMCON 1 (electronic silence) and EMCON 2 (radio silence).

6.22 Electrostatic Discharge

- 6.22.1 The ISS-A Radio must operate without incurring one or more defects during and after being exposed to electrostatic discharges.

7.0 HEALTH AND SAFETY

7.1 General

7.1.1 The ISS-A Radio must not present environmental, health or system safety hazards of a Catastrophic or Critical mishap severity.

7.1.2 The ISS-A Radio must not present a Catastrophic or Critical hazard to the operator and surrounding environment even when so damaged that it allows the ingress of water, egress of internal substances, or foreign material.

7.2 Mechanical Safety

7.2.1 The ISS-A Radio must bear no raw, sharp, or rough edges on any parts.

7.3 Thermal Contact Hazard

7.3.1 The maximum allowable surface contact temperatures for the The ISS-A Radio must be in accordance with MIL-STD-1472G section 5.7.6.9 Thermal contact hazards.

APPENDIX 2: TECHNICAL REQUIREMENT SPECIFICATION – ISS-A RADIO CABLES

1.0 PHYSICAL REQUIREMENTS

1.1 Size

1.1.1 Length of ISS-A Radio cables are TBD, but must not exceed the values below:

Cable Name	Length (mm)
Audio cable (for INVISIO® V60 Tactical Headset System)	800 +/- 50
Data cable	1350 +/- 50
Programming cable	1900 +/- 100

1.2 Finish and Color

1.2.1 All ISS-A Radio cables must have the same finish and color as stated in ISS-A Radio para 2.3.1.

2.0 INTERFACE REQUIREMENTS

2.1 Connectors

2.1.1 All cable connectors:

- a) must mate with Assaulter Hub connector on one end; or
- b) must mate with the INVISIO® V60 Tactical Headset System audio connector on one end.

3.0 ENVIRONMENT CONDITIONS

3.1 General

3.1.1 All ISS-A Radio cables and accessories must meet all performance requirements in this technical requirement specification without incurring physical damage and without degradation of performance, during and after exposure to any combination of the meteorological and induced climatic conditions described in the technical requirement specification of the ISS-A Radio.

4.0 HEALTH AND SAFETY

4.1 General

4.1.1 All ISS-A Radio cables and accessories must not present fire, environmental, health or system safety hazards of a Catastrophic or Critical mishap severity.

- 4.1.2 All ISS-A Radio cables and accessories must not present a Catastrophic or Critical hazard to the operator and surrounding environment even when so damaged that it allows the ingress of water, egress of internal substances, or foreign material.

4.2 Mechanical Safety

- 4.2.1 All ISS-A Radio cables and accessories must bear no raw, sharp, or rough edges on any parts.

4.3 Thermal Hazard

- 4.3.1 The maximum allowable surface contact temperatures for all ISS-A Radio cables and accessories must be in accordance with MIL-STD-1472G section 5.7.6.9 Thermal contact hazards.

APPENDIX 3: FLUID LIST

1.0 LIST OF FLUIDS

1.1.1 List of fluids below:

- a) Insect repellent (NSN 6840-01-284-3982, Crème, approx 32% Deet);
- b) Degreasing Solvent (MIL-PRF-680B);
- c) Weapon cleaning solvents (MIL-PRF-372D);
- d) Lubricating oil, general purpose (MIL-PRF-32033);
- e) Camouflage cream;
- f) Reactive Skin Decontaminant Lotion (RSDL);
- g) Salt water (real or simulated);
- h) Unleaded gasoline (CAN/CGSB 3.5);
- i) Hydraulic fluid (Mineral oil / petroleum-based NATO H-520/NATO H-515);
- j) Kerosene (Commercial fuel CAN/CGSB 3.3);
- k) Automatic Transmission fluid (Dexron III or Allison TES 228);
- l) Lubricant, semi-fluid, automatic weapons (MIL-L-46000);
- m) Lubricating oil, weapons, low temperature (MIL-PRF-14107);
- n) Anti-freeze (A-A-52624A Type I ethylene glycol-based and Type II propylene glycol-based);
- o) Engine oil (MIL-PRF-2104H, 15W40); and
- p) Diesel fuel (On-road CAN/CGSB 3.517).



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APPENDIX 4 to Annex A

Technical Evaluation Matrix

For the Acquisition and Support of Integrated Soldier System Assaulter (ISS-A) Radio W8476-226484



NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées.

1 GENERAL

1.1 General Instructions

- 1.1.1 The Bidder must fill out the Bidder's Compliance and the Bidder Response columns of Appendix 4 to Annex A, Technical Evaluation Matrix.

1.2 List of Acronyms and Abbreviations

- 1.2.1 Refer to the List of Acronyms and Abbreviations Section in Annex A - Statement of Work.

1.3 Terminology

- 1.3.1 Refer to the Terminology Section in Annex A - Statement of Work.

1.4 Applicable Documents

- 1.4.1 Refer to the Applicable Documents Section in Annex A - Statement of Work.

2 MANDATORY REQUIREMENTS

2.1 General

- 2.1.1 Bidder technical responses must include the information required in the Bidder's Response column for each mandatory requirement according to the method identified in the "Compliance Method" column.

2.2 Compliance Methods

2.2.1 Analysis Report

- 2.2.1.1 A document that provides evidence that the stated requirements are met. Support for the validation of the Analysis Report's findings must include one or more of the following:

- a) mathematical models;
- b) simulations;
- c) algorithms;
- d) calculations;
- e) charts;
- f) graphs;
- g) drawings;
- h) photos;
- i) dimensions;
- j) representative data,
- k) other scientific principles and procedures.

2.2.2 Certificate of Compliance

2.2.2.1 A document that certifies that the product or entity meets a specific standard. The certificate must:

- a) be issued by a qualified Third-Party Testing Facility or Agency; and
- b) contain the following information:
 - i) Name of the Third-Party Testing Facility or Agency; and
 - ii) Certificate number; and
 - iii) Date of issuance; and
 - iv) Name of the entity or the product; and
 - v) Applicable standards, or sections, or methods;

2.2.3 Explanation

A description which

2.2.3.1

- a) contains sufficient detail that demonstrates the requirement is met;
- b) is supported by one or more of the following justifications:
 - i) drawings;
 - ii) dimensions;
 - iii) calculations;
 - iv) graphs;
 - v) photos;
 - vi) data sheets;
 - vii) user manuals;
 - viii) description of the product.

2.2.4 Compliance Statement

For mandatory requirements, a Compliance Statement is required when Bidders are required to declare compliance with or have conducted testing in accordance with a specific standard.

Table 1: Bid Evaluation Matrix – ISS-A Radio

Req. W8476-226484	Requirement Statement	Method of Compliance	Additional Instructions to Bidder and Evaluation Criteria
SOW 8.0	QUALITY ASSURANCE		
SOW 8.1.1	Contractor must have one or more of the following certifications: a) ISO 9001; or b) AS9100D	Certificate of Compliance	The will be deemed compliant if the certificate demonstrates that the requirement is met.
ISS-A Radio Specs 1.0	GENERAL REQUIREMENTS		
ISS-A Radio Specs 1.1	Non-Developmental Item		
ISS-A Radio Specs 1.1.1	ISS-A Radio must be: a) Of proven (tested) design; and b) In current production; and c) Be in-use by an ABCANZ member armed forces. d) Provided with Identification Plates and Linear Barcode Symbolologies.	Explanation	Bidder must provide the following information in their explanation: a) Model number of the product; b) Quantity of the proposed equipment sold to ABCANZ armed forces members; c) Confirmation that the product is currently in production; and d) Identification Plates and Linear Barcode Symbolologies. This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 2.0	PHYSICAL REQUIREMENTS		
ISS-A Radio Specs 2.1	Size		

ISS-A Radio Specs 2.1.1	Dimensions of ISS-A Radio must not exceed the following measurements: a) Length: 140 mm; b) Width: 83 mm; and c) Thickness: 50 mm	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 2.2	Weight		
ISS-A Radio Specs 2.2.1	The weight of the ISS-A Radio (minus antennas and power adapter) must not exceed 600g.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 2.3	Finish and Color		
ISS-A Radio Specs 2.3.1	The ISS-A Radio must have a: a) Non-reflective flat green finish; b) Non-reflective flat black finish; c) Non-reflective flat brown finish; d) Non-reflective flat tan finish; or e) Non-reflective flat gray finish.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 3.0	INTERFACE REQUIREMENTS		
ISS-A Radio Specs 3.1	Connectors		
ISS-A Radio Specs 3.1.1	All ISS-A Radio ports must be equipped with connectors that mates with the connectors specified in Nett Warrior Interconnect Architecture White Paper (NWPAN-WP-01112013) version 6, Table IV.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 3.1.2	The ISS-A audio port must be equipped with connectors that mates with the INVISIO® V60 Tactical Headset System.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.

ISS-A Radio Specs 3.1.3	The ISS-A Radio must provide power to the INVISIO® V60 Tactical Headset System.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 3.2	Ports		
ISS-A Radio Specs 3.2.1	General		
ISS-A Radio Specs 3.2.1.1	The ISS-A radio data port must be compliant with Universal Serial Bus (USB) Revision 2.0 Specifications or ethernet.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 3.2.1.2	The ISS-A radio power and data ports must be equipped with connectors that mates with the connectors specified in Nett Warrior Interconnect Architecture White Paper (NWPAN-WP-01112013) version 6, Table IV.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 3.2.1.3	The ISS-A Radio must have a RF antenna port.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 3.2.1.4	The ISS-A Radio must have a commercial GPS antenna port.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 3.2.2	Power Port		
ISS-A Radio Specs 3.2.2.1	The power port must accept the input voltage range of 10 to 16.8 VDC.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 3.2.2.2	The power and ground connections on the ISS-A Radio ports must be rated for no less than 5 Amps.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio 4.0	FUNCTIONAL REQUIREMENTS		
ISS-A Radio Specs 4.1	Compatibility		

ISS-A Radio Specs 4.1.1	The ISS-A Radio must be interoperable (voice and data) with other radios using TSM waveform (release 6.1 or later).	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.2	The ISS-A Radio must have a maximum data transfer rate of 16 Mbps (1-hop).	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.3	The ISS-A Radio must have a range of at least 500 meters (1-hop) over all frequency ranges.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.4	The ISS-A Radio must have the capability to relay up to 8 hops between other ISS-A radios (voice and data).	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.5	The ISS-A Radio must be interoperable (voice and data) with other ISS-A radios when in a GPS-denied environment, such as inside buildings or vehicles with no clear view of GPS satellites.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.6	The ISS-A Radio must be interoperable (voice and data) with the AN/PRC-163 Leader Radio using the TSM-X waveform.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.

ISS-A Radio Specs 4.1.7	The ISS-A Radio must be capable of using commercial GPS.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.8	The ISS-A Radio must support up to 200x users on the same network	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.9	The ISS-A radio must include network planning and monitoring software for use on a Windows 10 computer.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.10	The ISS-A Radio must be capable of being zeroized by the local user.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.11	The ISS-A Radio must be capable of being zeroized remotely.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.12	The ISS-A Radio must be capable of using the TSM waveform (release 6.1 or later) in the frequency range of 225 to 450 MHz (UHF Band), while meeting all requirements specified in the document herein.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.

ISS-A Radio Specs 4.1.13	The ISS-A Radio must be capable of using the TSM waveform (release 6.1 or later) in the frequency range of 1250 to 2600 MHz (S Band), while meeting all requirements specified in the document herein.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.14	The ISS-A Radio bandwidth must be configurable in increments from 1.2 MHz to 40 MHz..	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.1.15	The ISS-A radio must be a type 3 (commercial AES 256) crypto device.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio 4.2	Data Exchange		
ISS-A Radio Specs 4.2.1	The ISS-A radio must be configurable and operate over a minimum of USB 2.0 or Ethernet.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 4.2.2	ISS-A Radio must be compatible with a EUD running ATAK software application.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio 5.0	Sustainability Requirements		
ISS-A Radio Specs 5.1	Reliability		
ISS-A Radio Specs 5.1.1	The ISS-A Radio must have a Mean Time Between Failures (MTBF) of not less than 5,000 hours.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 5.2	Power		
ISS-A Radio Specs 5.2.1	The ISS-A Radio must draw no more than 5 Amps (peak power) when connected to a single power source with no other devices connected.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.

ISS-A Radio Specs 5.2.2	The ISS-A Radio must be compatible with rechargeable Land Warrior Batteries	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 5.2.3	The ISS-A Radio must be compatible with non-rechargeable Land Warrior Batteries	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 5.3	Built In Test (BIT)		
ISS-A Radio Specs 5.3.1	The ISS-A Radio must perform a BIT during initial system power up.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 5.3.2	Failure of the BIT must be communicated to the user.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 5.4	Recovery from Electrical Faults		
ISS-A Radio Specs 5.4.1	The ISS-A Radio must recover automatically from an over-voltage when the fault is removed.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 5.4.2	The ISS-A Radio must recover automatically from an over-current when the fault is removed.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 5.5	Interface Control Documents		
ISS-A Radio Specs 5.5.1	There is a requirement to integrate the Assaulter Radio with the Integrated Soldier System Suite, after contract award. It is therefore mandatory to work with ISSP third party Contractors such as Glenair Inc, Rheinmetall Canada Inc. etc. The Contractor must provide the hardware and software Interface	Compliance Statement	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.

	Control Documents, in sufficient detail, to the DND TA and to Canada's Soldier System Contractor(s) for integration purposes only, including, but not limited to, the data nature and type available via interface. The Interface Control Documents must be provided to the DND TA no later than 30 days after contract award (or mutually agreed upon dates).		
ISS-A Radio Specs 6.0	ENVIRONMENT CONDITIONS		
ISS-A Radio Specs 6.1	General		
ISS-A Radio Specs 6.1.1	The ISS-A Radio must meet all performance requirements of this Technical Requirement Specification without incurring one or more of the following defects during and after exposure to any combination of the meteorological and induced climatic conditions described in this section: --physical damage, -Malfunction, and -Degradation of performance.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.

ISS-A Radio Specs 6.2	Low Pressure (Altitude)	Explanation	Low Pressure (Altitude)
ISS-A Radio Specs 6.2.1	The ISS-A Radio must operate without incurring one or more defects during and after being exposed to all altitudes from sea level to 4572 meters.		<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 500.6, Procedure II or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.

ISS-A Radio Specs 6.3	High Temperature – Operation	Explanation	This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:
ISS-A Radio Specs 6.3.1	The ISS-A Radio must operate without incurring one or more defects during and after being exposed to all high temperature environments associated with the A1 (+49°C max) climatic region as described in MIL-STD-810H.		<p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 501.7, Procedure II, or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.
ISS-A Radio Specs 6.4	High Temperature – Storage		

ISS-A Radio Specs 6.4.1	ISS-A Radio must be stored without incurring one or more defects during and after being exposed to all high temperature environments associated with the A1 climatic region as described in MIL-STD-810H.	Explanation	<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <ul style="list-style-type: none"> a) ISS-A Radio was tested IAW MIL-STD-810H, Method 501.7, Procedure I or an equivalent Method and Procedure of MIL-STD-810G; and b) Test Results determined the following for the ISS-A Radio during and after the test: <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.
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ISS-A Radio Specs 6.5	Low Temperature - Operation	
ISS-A Radio Specs 6.5.1	<p>ISS-A Radio must operate without incurring one or more defects during and after being exposed to all low temperature environments associated with a C1 (-30°C min) climatic region as described in MIL-STD-810.</p> <p>For this requirement, the lower boundary of the C1 climatic region will be evaluated at -30°C.</p>	<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <p>a) ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 502.7, Procedure I or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.
ISS-A Radio Specs 6.6	Low Temperature - Storage	

ISS-A Radio Specs 6.6.1	ISS-A Radio must be stored without incurring one or more defects during and after being exposed to all low temperature environments associated with a C1 (-30°C min) climatic region as described in MIL-STD-810. For this requirement, the lower boundary of the C1 climatic region will be evaluated at -30°C.	Explanation	This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder: a) ISS-A Radio was tested IAW MIL-STD-810H, Method 502.7, Procedure II or an equivalent Method and Procedure of MIL-STD-810G; and b) Test Results determined the following for the ISS-A Radio during and after the test: i) no display of any change in material characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.
ISS-A Radio Specs 6.7	Temperature Shock		

ISS-A Radio Specs 6.7.1	<p>ISS-A Radio must operate without incurring one or more defects during and after being exposed to conditions of rapid changes in ambient air temperature as encountered during movements between in-door environments and out-door environments at either high temperature (+49°C) and low temperature (-30°C) extremes.</p> <p>For this requirement, the ISS-A Radio does not require any physical modifications or preparations in advance.</p>	Explanation	<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 503.7, Procedure I-C or Procedure I-D, or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.
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ISS-A Radio Specs 6.8	Contamination by Fluids	Explanation or Analysis Report	Explanation:
ISS-A Radio 6.8.1	ISS-A Radio must operate without incurring one or more defects during and after being exposed with the fluids listed in Appendix 3 – Fluids List.		<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <p>a) ISS-A Radio was tested with all fluid listed in Appendix 3, and IAW MIL-STD-810H, Method 504.3, using Intermittent Contamination Procedure, or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in material characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance. <p>Or</p> <p><u>Analysis Report:</u> This technical evaluation criterion will be met if the Analysis Report demonstrates that the requirement is met.</p>

ISS-A Radio Specs 6.9	Solar Radiation (Sunshine)	Explanation or Analysis Report	Explanation:
ISS-A Radio Specs 6.9.1	ISS-A Radio must operate without incurring one or more defects during and after being exposed in all high solar radiation environments associated with A1 climatic region as described in MIL-STD-810H.		<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <p>a) ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 505.7 Procedure I, or an equivalent Method and Procedure of MIL-STD-810G;</p> <p>b) A1 climatic conditions were used; and</p> <p>c) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance. <p>Or</p> <p><u>Analysis Report:</u> This technical evaluation criterion will be met if the Analysis Report demonstrates that the requirement is met.</p>

ISS-A Radio Specs 6.10	Rain	Explanation	This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:
ISS-A Radio Specs 6.10.1	The ISS-A Radio must operate without incurring one or more defects during and after being exposed to conditions of rainfall exposure of a minimum 1.7 mm/min as described in MIL-STD-810H.		<p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 506.6, Procedure I (Rain and Blowing Rain) or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) evidence of physical damage; and iii) no malfunction or degradation of performance.

ISS-A Radio Specs 6.11	Humidity	Explanation	This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:
ISS-A Radio Specs 6.11.1	The ISS-A Radio must operate without incurring one or more defects during and after being exposed to all high humidity environments associated with B1, B2 and B3 climatic regions as described in MIL-STD-810H.		<p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 507.6, Procedure II, (Aggravated) or an equivalent Method and Procedure of MIL-STD-810G;</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.

ISS-A Radio Specs 6.12	Fungus	Explanation or Analysis Report	Explanation:
ISS-A Radio Specs 6.12.1	The ISS-A Radio must not contain materials that support fungus growth.		<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <p>a) The ISS-A Radio was tested IAW MIL-STD-810H, Method 508.8 or an equivalent Method and Procedure of MIL-STD-810G.; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no display of fungus; iii) no evidence of physical damage; and iv) no malfunction or degradation of performance. <p>Or</p> <p><u>Analysis Report:</u> The bid will be deemed compliant if the Analysis Report demonstrates that the requirement is met.</p>

ISS-A Radio Specs 6.13	Salt Fog	Explanation or Analysis Report	This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:
ISS-A Radio Specs 6.13.1	The ISS-A Radio must operate without incurring one or more defects during and after being exposed to a salt fog atmosphere.		<p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 509.7 or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no display of corrosion; iii) no evidence of physical damage; and iv) no malfunction or degradation of performance.

ISS-A Radio Specs 6.14	Sand and Dust	Explanation	This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:
ISS-A Radio Specs 6.14.1	The ISS-A Radio must operate without incurring one or more defects during and after being exposed to a blowing sand and dust environment.		<p><u>Dust:</u></p> <p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H Method 510.7 procedure I or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <p>i) no display of any change in materiel characteristics; and</p> <p>ii) no evidence of physical damage; and</p> <p>iii) no malfunction or degradation of performance.</p> <p>And</p>

			<p><u>Sand:</u></p> <p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H Method 510.7 procedure II or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none">i) no display of any change in materiel characteristics;ii) no evidence of physical damage; andiii) no malfunction or degradation of performance.
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ISS-A Radio Specs 6.15	Explosive Atmosphere		
ISS-A Radio Specs 6.15.1	The ISS-A Radio must not be hazardous in an explosive environment	Explanation or Analysis Report	<p><u>Explanation:</u> This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 511.7 Procedure I or an equivalent Method and Procedure of MIL-STD-810G;</p> <p>b) All devices were disconnected and reconnected to the ISS-A Radio during the test; and</p> <p>c) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in material characteristics; ii) The ISS-A Radio does not cause ignition in a fuel-air explosive atmosphere; iii) no evidence of physical damage; and iv) no malfunction or degradation of performance. <p>Or</p> <p>Analysis Report: This technical evaluation criterion will be met if the Analysis Report demonstrates that the requirement is met.</p>

ISS-A Radio Specs 6.16	Water Immersion	Explanation	This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:
ISS-A Radio Specs 6.16.1	<p>During and after a water immersion of one (1) meter depth for a minimum of 30 minutes, the ISS-A Radio must:</p> <ul style="list-style-type: none"> a) not allow water or moisture ingress; and b) operate without incurring one or more defects. 		<p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 512.6 Procedure I (Immersion) or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.

ISS-A Radio Specs 6.17	Vibration	Explanation	
ISS-A Radio Specs 6.17.1	The ISS-A Radio must operate without incurring one or more defects after and during being exposed to vibrations of military ground vehicles.		<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <p>a) The ISS-A Radio was tested IAW any of the following Procedures of Method 514.8 in MIL-STD-810H:</p> <ul style="list-style-type: none"> a. Procedure I, with any of the following vibration profiles: i) Category 4 - Two-wheeled Trailer; or ii) Category 24 - General Minimum Integrity, vibration profile identified in Figure 514.8E-1. b. Procedure II, using a vibration profile described in Category 5 - Truck/trailer; <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance. <p>Equivalent Methods and Procedures of MIL-STD-810G are also accepted.</p>

ISS-A Radio Specs 6.18	Functional Shock	Explanation	This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:
ISS-A Radio Specs 6.18.1	The ISS-A Radio must operate without incurring one or more defects during and after being exposed to shocks associated with dismounted soldier operations.		<p>a) The ISS-A Radio was tested in an operational state, and IAW MIL-STD-810H, Method 516.8 Procedure I (Functional Shock) or an equivalent Method and Procedure of MIL-STD-810G; and</p> <p>b) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in material characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.

ISS-A Radio Specs 6.19	Transit Drop	Explanation	This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:
ISS-A Radio Specs 6.19.1	The ISS-A Radio must operate without incurring one or more defects during and after experiencing 1.22m drops.		<p>a) The ISS-A Radio was tested IAW MIL-STD-810H, Method 516.8 Procedure IV (Transit Drop) or an equivalent Method and Procedure of MIL-STD-810G;</p> <p>b) The ISS-A Radio was unpacked and in a non-operational state with no device connected;</p> <p>c) Test Results determined the following for the ISS-A Radio during and after the test:</p> <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.

ISS-A Radio Specs 6.20	Electric field, radiated susceptibility	
ISS-A Radio Specs 6.20.1	<p>The ISS-A Radio must operate without incurring one or more defects during and after being exposed to an electrical field of 50V/m at frequencies of 2MHz to 18GHz.</p>	<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <ul style="list-style-type: none"> a) Test IAW MIL-STD-461G, test RS103 or an equivalent Method and Procedure of MIL-STD-461F; b) ISS-A Radio tested in an operational state; c) Test Results determined the following for the ISS-A Radio during and after the test: <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.

ISS-A Radio Specs 6.21	Emission Control (EMCON)		
ISS-A Radio Specs 6.21.1	The ISS-A Radio must meet the EMCN requirement from section 5.14 of MIL-STD-464C. Frequencies tested are outside of 225-2600 MHz frequency range	Explanation	<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <ul style="list-style-type: none"> a) Test IAW MIL-STD-461G, test RE102 or an equivalent Method and Procedure of MIL-STD-461F; b) ISS-A Radio tested in an operational state; c) Test Results determined the following for the ISS-A Radio during and after the test: <ul style="list-style-type: none"> i) no display of any change in materiel characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.

ISS-A Radio Specs 6.21.2	The ISS-A Radio must be configurable for EMCON 1 (electronic silence) and EMCON 2 (radio silence).	The ISS-A Radio must be configurable for EMCON 1 (electronic silence) and EMCON 2 (radio silence).
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ISS-A Radio Specs 6.22	Electrostatic Discharge		
ISS-A Radio Specs 6.22.2	The ISS-A Radio must operate without incurring one or more defects during and after being exposed to electrostatic discharges.	Test Report	<p>This technical evaluation criterion will be met if the Explanation contains the following Confirmations from the Bidder:</p> <ul style="list-style-type: none"> a) The ISS-A Radio was tested in an operational state, and IAW any of the following Military Standards: <ul style="list-style-type: none"> i) MIL STD 1686C, 5.2.2.2, Direct Contact, Operating Equipment, 4000V Hand/Metal HBM test; ii) MIL-STD-461G, test CS118, using a Level 3 Discharge or higher; iii) MIL-STD-464C, section 5.8.4 Electrical and electronic subsystems; b) The ISS-A Radio was tested in an operational state; c) Test Results determined the following for the ISS-A Radio during and after the test: <ul style="list-style-type: none"> i) no display of any change in material characteristics; ii) no evidence of physical damage; and iii) no malfunction or degradation of performance.
ISS-A Radio Specs 7.0	HEALTH AND SAFETY		

ISS-A Radio Specs 7.1		General		
ISS-A Radio Specs 7.1.1		The ISS-A Radio must not present environmental, health or system safety hazards of a Catastrophic or Critical mishap severity.	Analysis Report or Explanation	This technical evaluation criterion will be met if the Analysis Report or the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 7.1.2		The ISS-A Radio must not present a Catastrophic or Critical hazard to the operator and surrounding environment even when so damaged that it allows the ingress of water, egress of internal substances, or foreign material.	Analysis Report or Explanation	This technical evaluation criterion will be met if the Analysis Report or the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 7.2		Mechanical Safety		
		The ISS-A Radio must bear no raw, sharp, or rough edges on any parts.	Analysis Report or Explanation	This technical evaluation criterion will be met if the Analysis Report or the Explanation demonstrates that the requirement is met.
ISS-A Radio Specs 7.2.1				
ISS-A Radio Specs 7.3		Thermal Contact Hazard		
ISS-A Radio Specs 7.3.1		The maximum allowable surface contact temperatures for the ISS-A Radio must be in accordance with MIL-STD-1472G section 5.7.6.9 Thermal contact hazards.	Analysis Report or Explanation	This technical evaluation criterion will be met if the Analysis Report or the Explanation demonstrates that the requirement is met.
ISS-A Radio Cables Specs 1.0		PHYSICAL REQUIREMENTS		
ISS-A Radio Cables Specs 1.1		Size		

ISS-A Radio Cables Specs 1.1.1	Length of ISS-A cables are TBD, but must not exceed the values below: Cable Name, Length (mm) Audio cable (for INVISIO® V60 Tactical Headset System), 800 +/- 50 mm Data cable, 1350 +/- 50 mm Programming cable, 1900 +/- 100 mm	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met. If the power and data cable are integrated, then separate cables are not required.
ISS-A Radio Cables Specs 1.2	Finish and Color		
ISS-A Radio Cables Specs 1.2.1	All ISS-A cables must have the same finish and color as stated in ISS-A Radio specs para 2.3.1.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Cables Specs 2.0	INTERFACE REQUIREMENTS		
ISS-A Radio Cables Specs 2.1	Connectors		
ISS-A Radio Cables Specs 2.1.1	All cable connectors: a) must mate with Assaulter Hub connectors on one end; or b) must mate with the INVISIO® V60 Tactical Headset System audio connector on one end.	Explanation	This technical evaluation criterion will be met if the Explanation demonstrates that the requirement is met.
ISS-A Radio Cables Specs 3.0	ENVIRONMENT CONDITIONS		
ISS-A Radio Cables Specs 3.1	General		

ISS-A Radio Cables Specs 3.1.1	All ISS-A Cables and Accessories must meet all performance requirements in this technical requirement specification without incurring physical damage and without degradation of performance, during and after exposure to any combination of the meteorological and induced climatic conditions described in the technical requirement specification of ISS-A Radio.	Explanation	This technical evaluation criterion will be met if the Explanation confirms that the requirement is met.
HEALTH AND SAFETY			
ISS-A Radio Cables Specs 4.0	General		
ISS-A Radio Cables Specs 4.1	All ISS-A Cables and Accessories must not present environmental, health or system safety hazards of a Catastrophic or Critical mishap severity.	Analysis Report or Explanation	This technical evaluation criterion will be met if the Analysis Report or the Explanation demonstrates that the requirement is met.
ISS-A Radio Cables Specs 4.1.1			
ISS-A Radio Cables Specs 4.1.2	All ISS-A Cables and Accessories must not present a Catastrophic or Critical hazard to the operator and surrounding environment even when so damaged that it allows the ingress of water, egress of internal substances, or foreign material.	Analysis Report or Explanation	This technical evaluation criterion will be met if the Analysis Report or the Explanation demonstrates that the requirement is met.
ISS-A Radio Cables Specs 4.2	Mechanical Safety		

ISS-A Radio Cables Specs 4.2.1	All ISS-A Cables and Accessories must bear no raw, sharp, or rough edges on any parts.	Analysis Report or Explanation	This technical evaluation criterion will be met if the Analysis Report or the Explanation demonstrates that the requirement is met.
ISS-A Radio Cables Specs 4.3	Thermal Contact Hazard		
ISS-A Radio Cables Specs 4.3.1	The maximum allowable surface contact temperatures for all ISS-A Cables and Accessories must be in accordance with MIL-STD-1472G section 5.7.6.9 Thermal contact hazards.	Analysis Report or Explanation	This technical evaluation criterion will be met if the Analysis Report or the Explanation demonstrates that the requirement is met.

ANNEX B, BASIS OF PAYMENT-TO BE COMPLETED BY BIDDER (Taxes excluded in all Tables)

Firm Fixed Fee: The Contractor shall be paid, Firm Fixed Extended Prices (FFP), items will be DAP (Delivery at Place) as shown in the tables below.

All Goods items must individually include DAP (Delivered at Place), the Contractor is responsible for export clearance, delivery charges, administration costs and transport risks. Canada is responsible for all import clearance, including the payment of applicable duties.

DELIVERED AT PLACE:

All items in the tables below are to delivered to the following address:

Canadian Forces Supply Depot Edmonton (7 CFSD)

195 Ave 82 St

Building 236

Edmonton, Alberta

T5J 4J5

Table 1	FIRM REQUIREMENTS (Table 1 to be completed by Bidder) INCOTERMS 2010, DAP (Delivery at Place)	Qty	Unit Price	Extended Price
	Firm Requirements			
	ISS-A Radio. This includes the power adapter, GPS antenna, wide-band RF antenna(e) (225-450 and 1250-2600 Mhz), programming software and TSM license.	1250		\$ -
1		1250	\$ -	-
2	Audio cable (for INVISIO® V60 Tactical Headset System)	1250	\$ -	-
3	Data Cable	1250	\$ -	-
4	Programming cable	125	\$ -	-
		125	\$ -	-
	All blocks must be filled out for Total evaluated price	TOTAL EXTENDED Price	\$ -	\$ -

Table 2	OPTIONAL REQUIREMENTS (Table 2 to be completed by Bidder) Delivery INCOTERMS 2010, DAP (Delivery at Place)	Qty (up to)	Contract Award until Option Year 1	Option Year 1	Option Year
	Note: Optional Requirements are not firm orders. Canada may or may not exercise one or all items within this table. The Optional Requirements do not in any way constitute a commitment on behalf of Canada. Canada may exercise the quantities at any time throughout the exercised Optional years				
	ISS-A Radio. This includes the power adapter, GPS antenna, wide-band RF antenna(e) (225-450 and 1250-2600 Mhz), programming software and TSM license.	1250			
1		1250	\$ -	-	-
2	Audio cable (for INVISIO® V60 Tactical Headset System)	1250	\$ -	-	-
3	Data Cable	1250	\$ -	-	-
4	Programming cable	125	\$ -	-	-
		125	\$ -	-	-
	All blocks must be filled out for Total evaluated price	TOTAL EXTENDED Price	\$ -	-	-

Table 3	Optional Spare Parts Order (Note: Bidders should provide breakdown of parts with their pricing which will be inserted after contract award. Delivery INCOTERMS 2010, DAP(Delivery at Place)	Qty	Contract Award until Option Year 1	Option Year 1	Option Year
1	As determined by the Technical Authority after review of recommended spares parts list	TBD			

Additional Work Requirements: Where the satisfactory performance of approved Additional Work Requirements, in accordance with the Resultant Contract Articles of Agreement 6, entails the provision of labour services the Contractor will be paid firm hourly rates as per Table below.

Table 4	Labour Category	Level of Effort (A)	Firm Hourly Rate (B)	Total
4.1*	Hour			
4.2*	Hourly rate per labour category			
	Program Manager	200	\$ -	\$ -
	Senior Engineer	200	\$ -	\$ -
	Engineering Manager	200	\$ -	\$ -
	Junior Engineer	200	\$ -	\$ -
	Design Engineer	200	\$ -	\$ -
	Technician	200	\$ -	\$ -
	Scientist	200	\$ -	\$ -
	Program Analyst	200	\$ -	\$ -
	Writer/Trainer	200	\$ -	\$ -
	Configuration Control Manager	200	\$ -	\$ -
4.3*	Section 4.0 Total			\$ -
4.1* Number of hours (200) used for bid price evaluation only, this does not constitute an obligation of work on behalf of Canada.				
4.2* Enter the Firm Hourly Rate (B) for each labour category. Multiply the Level of Effort (A) X Firm Hourly Rate (B).				
4.3* Summation of all totals of section 4.2				

Additional Work Requirements: Where the satisfactory performance of approved Additional Work Requirements, in accordance with the Resultant Contract Articles of Agreement 6, entails the provision of materials, the Contractor shall be paid actual costs plus a firm material mark-up rate, in percentage, including all overhead and profit, as listed in Table 5.0 below.

Table 5.0	Material Mark-up	
5.1*	Material Cost	\$150,000.00
5.2*	Material Mark-up Rate	0%
5.3*	Mark-up Total \$	\$ -
5.4*	Section 5.0 Total	\$ -
5.1* Material Cost used for bid price comparison only.		
5.2* Enter the Material Mark-up Rate Percentage.		
5.3* Calculate the Mark-up Total (section 5.1 X [1 + section 5.2]).		
5.4* Summation of all items of section 5.3		

Additional Work Requirements: Where the satisfactory performance of approved Additional Work Requirements, in accordance with the Resultant Contract Articles of Agreement 6, entails the provision of subcontracting, the Contractor shall be paid actual costs plus a firm subcontracting mark-up rate, in percentage, including all overhead and profit, as listed in Table 6.0 below.

Table 6.0	Sub contractor Mark-up	
6.1*	Material / Service Cost	\$150,000.00
6.2*	Material / Service Mark-up Rate	0%
6.3*	Mark-up Total \$	\$ -
6.4*	Section 6.0 Total	\$ -
6.1* Material / Service Cost used for bid price comparison only.		
6.2* Enter the Material / Service Mark-up Rate Percentage.		
6.3* Calculate the Mark-up Total (section 6.1 X [1 + section 6.2])		
6.4* Summation of all item of section 6.3		

Travel and Living Expenses: Where the satisfactory performance of approved Additional Work Requests entails Travel and Living Expenses, the Contractor will be reimbursed for these expenses reasonably and properly incurred in the performance of the Work. The reimbursement will be at cost without allowances for profit and/or administrative overhead. The reimbursement will be in accordance with the Treasury Board Travel Directive or the Contractor's internal policies, whichever is less. The applicable items in the Treasury Board Travel Directive are:

- a) The provisions in the directive referring to "travelers", rather than those referring to "employees"; and
b) The most private vehicle and incidental expenses provided in Appendices B, C and D.

Total Evaluated Financial Bid price	
Total Table 1 (Equals Total Extended Price)	\$ -
Total Table 2 (Sum of total Extended Price)	\$ -
Total Table 4	\$ -
Total Table 5	\$ -
Total Table 6	\$ -
Total Evaluated Financial Bid price	\$ -