



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 0B2 / Noyau 0B2

Gatineau, Québec K1A 0S5

Bid Fax: (819) 997-9776

Revision to a Request for a Standing Offer

Révision à une demande d'offre à commandes

National Individual Standing Offer (NISO)

Offre à commandes individuelle nationale (OCIN)

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

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

Comments - Commentaires

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Defence Communications Division. (QD)

11 Laurier St./11, rue Laurier

Place du Portage, Phase III, 8C2

Gatineau, Québec K1A 0S5

Title - Sujet VHF/UHF AM/FM Radios		
Solicitation No. - N° de l'invitation W8474-167196/C		Date 2017-03-14
Client Reference No. - N° de référence du client W8474-167196		Amendment No. - N° modif. 001
File No. - N° de dossier 038qd.W8474-167196	CCC No./N° CCC - FMS No./N° VME	
GETS Reference No. - N° de référence de SEAG PW-\$\$QD-038-26219		
Date of Original Request for Standing Offer Date de la demande de l'offre à commandes originale		2017-03-03
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-03-22		Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
Address Enquiries to: - Adresser toutes questions à: Debidin, Vidia		Buyer Id - Id de l'acheteur 038qd
Telephone No. - N° de téléphone (819) 420-2699 ()	FAX No. - N° de FAX (819) 953-4510	
Delivery Required - Livraison exigée		
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:		
Security - Sécurité This revision does not change the security requirements of the Offer. Cette révision ne change pas les besoins en matière de sécurité de la présente offre.		

Instructions: See Herein

Instructions: Voir aux présentes

Acknowledgement copy required Accusé de réception requis	Yes - Oui <input type="checkbox"/>	No - Non <input type="checkbox"/>
The Offeror hereby acknowledges this revision to its Offer. Le proposant constate, par la présente, cette révision à son offre.		
Signature	Date	
Name and title of person authorized to sign on behalf of offeror. (type or print) Nom et titre de la personne autorisée à signer au nom du proposant. (taper ou écrire en caractères d'imprimerie)		
For the Minister - Pour le Ministre		

The purpose of this amendment is to:

1. Modify Annex A – Statement of Requirement (SOR), Section 2.2 – Ancillary Equipment Requirements and 2.3 – Non-Essential Ancillary Equipment Requirements.
2. Modify Annex B – Technical Specifications, Table II – Radio Administration and Table IV – Non-essential Ancillary Equipment.
3. Modify Annex E – Compliance Matrix.
4. Respond to questions received from industry.

The following shall form part of the RFSO:**1. In Annex A – Statement of Requirement (SOR)**

- 1.1 At section 2.2 - Ancillary Equipment Requirements:

Insert Item 11 and 12 at the end of the table, **as shown below**;

- Item 11 - Operational Waveforms: Capable of utilizing operational waveforms (HaveQuick I/II) in 225 to 400 MHz band.
- Item 12 - Crypto Software: AES 256 Software and the means to load it.

- 1.2 At section 2.3 – Non-Essential Ancillary Equipment Requirements:

Delete Item 5 and 6.

2. In Annex B – Technical Specifications

- 2.1 Table II – Radio Administration - Item 4:

Insert the following wording at the end of the sentence;

“HaveQuick capability must be between 225 to 400 MHZ”.

- 2.2 Table IV – Non-essential Ancillary Equipment:

Delete Item 5 and 6.

3. In Annex E – Compliance Matrix.

At item 25 of the Annex B – Technical Specifications Tab

Insert the following wording at the end of the sentence:

(i.e. HaveQuick I/II, 225 to 400 MHz).

Questions Received as of 14 March 2017 for Solicitation No W8474-167196/C

Q1. Can you confirm the digital protocol DND requires for this RFSO? P25 or DRM?

A1. P25 protocol is not a requirement of this RFSO but if provided, it will be accepted.

Q2. **Reference: Annex B – Technical Specifications, Table IV – Non-Essential Ancillary Equipment.**

2a. What is the instantaneous bandwidth for the HaveQuick I/II requirement? Does it have to hop instantaneously from 30 to 512MHz? Or can the instantaneous hopping be in smaller sub-bands, such as 30-88, 88-225 and 225 to 512MHz (examples only)?

A2a. Bandwidth for the HaveQuick capability must be between 225 to 400 MHz. See modified Annex A and B and E.

2b. What is the maximum hopping RATE requirement?

A2b. Hop rate should be the standard one used so we can communicate with aircraft when required.

Q3. Given that the requested equipment and ancillaries are off-the-shelf products, we would like to request the application of SACC clause N0001C Limitation of Contractor's Liability for Damages to Canada.

A3. Regrettably, the proposed clause cannot be incorporated into the RFSO. All terms and Conditions of this RFSO remain unchanged.

Q4. Is it possible to get a list of the operational waveforms that are requirements for this program?

A4. DND will not accept any other operational waveforms other than specified in the RFSO.

All other terms and conditions of the RFSO remain unchanged.

See the attached revised Annexes. Revisions are displayed in green font.



ANNEX A

STATEMENT OF REQUIREMENT

VHF/UHF AM/FM HANDHELD RADIOS

AND

ANCILLARY EQUIPMENT

Issued By:

National Defence Headquarters

Joint Strategic Communications Support Services

Date: 05 December 2016

Table of Contents

1	GENERAL	1
1.1	Scope	1
1.2	General Description.....	1
1.3	ITAR/CTAT.....	1
1.4	Hazardous Material	1
1.5	Discontinuation of Production	1
2	REQUIREMENTS	2
2.1	Transceiver Package Requirements	2
2.2	Ancillary Equipment Requirements	2
2.3	Non-Essential Ancillary Equipment Requirements	3
3	INFORMATION AND PUBLICATIONS	4
3.1	Technical Bulletins.....	4
3.2	Maintenance Manuals.....	4
4	EXTENDED WARRANTY	4
5	GLOSSARY	4

1 GENERAL

This document is the Statement of Requirement (SOR) for a Standing Offer (SO) put forward by the Department of National Defence (DND) for Very High Frequency (VHF) and Ultra High Frequency (UHF) Amplitude Modulation (AM) Frequency Modulation (FM) handheld radio systems to be used for command and control of air/ground assets.

1.1 Scope

This documentation covers the minimum DND requirements for the supply of VHF/UHF AM/FM handheld transceiver capable of operating in the 30 – 512 MHz band.

1.2 General Description

The primary purpose of this requirement is to provide DND with a handheld transceiver that will provide line-of-sight two-way voice and data communications between personnel on the ground and aircraft, vehicles, fixed sites and other personnel equipped with VHF/UHF AM/FM 30 – 512 MHz radio equipment.

1.3 ITAR/CTAT

For all items listed under this SO, the Manufacturer must provide the Technical Authority (TA) with a list of ITAR/CTAT applicable codes. Where the code refers to either a Hazardous Material or special disposal requirements, the Offeror must identify both the hazardous material and the disposal code in its offer.

1.4 Hazardous Material

All hazardous material must be clearly marked in all technical publications and bulletins by hazardous material and part number. Disposal instructions must be provided as an Annex to either the technical publication or the bulletin.

1.5 Discontinuation of Production

The Manufacturer must identify, to the TA and Standing Offer Authority, any item that is scheduled for discontinuation, throughout the life of the SO. Within one month of a decision to discontinue an item, the Manufacturer must identify to the TA, new components that are form, fit and functional replacements. This would allow the TA to procure extra units prior to production termination. The technical data, of the replacement items, must be forwarded to the TA for verification of acceptability.

2 REQUIREMENTS

2.1 Transceiver Package Requirements

The Contractor must deliver radio packages on “as and when requested” basis that must consist of:

<u>Item</u>	<u>Quantity</u>	<u>Description</u>
1	1	VHF/UHF AM/FM Handheld Transceiver;
2	1	Rechargeable Battery;
3	1	Antenna;
4	1	Carrying Case with belt clip or loop; and
5	1	Operating manual (English and/or French in electronic format.)

2.2 Ancillary Equipment Requirements

The Contractor must deliver the following Ancillary equipment on “as and when requested” basis. These items may be purchased as supplemental ancillary equipment, as needed.

Item	Description	Specification
1	Battery Charger	Multi-Port Single Port
2	Microphones	Lapel Speaker Headset
3	Spare Batteries	Identical to battery that comes with the radio kit.
4	Radio	Transceiver only
5	Programming Kit	Containing software, cables, and all other accessories needed to make the kit complete and fully program a transceiver with software.
6	Software	For programming/control of the transceiver or other major components. Must be compatible with Microsoft Windows 7.
7	Carrying Case	Identical to accommodate unit issued with offered package.

8	Antenna	Identical to unit issued with offered package.
9	Standard Cable	As per the radio design requirements.
10	Standard Connector	As per the radio design requirements.
11	Operational Waveforms	Capable of utilizing operational waveforms (HaveQuick I/II) in the 225 to 400 MHz band.
12	Crypto Software	AES 256 Software and the means to load it.

2.3 Non-Essential Ancillary Equipment Requirements

With its offer, the Offeror must submit price and availability for the equipment shown in the below table. These items may be incorporated in the standing offer by the Standing Offer Authority.

Item	Description
1	Any other types of Spare Batteries that may be available for supply.
2	Any other types of Carrying Case that may be available for supply.
3	Any other types of Antennas that may be available for supply.
4	Any special tools that will be required for maintenance of the equipment as applicable.
5	Not Used.
6	Not Used.
7	Manufacturer's Recommended Spare Parts Kit for Field Level Repairs.

3 INFORMATION AND PUBLICATIONS

3.1 Technical Bulletins

Technical bulletins relating to modifications, repairs and operation of the equipment must be provided to the TA throughout the life of the SO. Bulletins are to be forwarded to the TA in MS-Word or PDF format and should be within 3 months of bulletin release.

3.2 Maintenance Manuals

Maintenance Manuals must be provided for all major equipment, such as transceivers, power supply and vehicle adapters. The manuals must provide as a minimum the following;

- a) Operation and Testing Detail: This manual must contain all applicable cautions and warnings, theory of operation and maintenance instruction, both preventative and corrective. It must be an all-inclusive and detailed concept of operation, testing and repair procedures.
- b) Block Diagram: An all-inclusive and detailed Block Diagram of the equipment, together with an accurate technical description, including that of any varying configurations with the appropriate connections must be included.
- c) Schematics: An all-inclusive Schematic Diagram of the equipment with all of the components and test points clearly indicated must be included.
- d) Sketches: Sketches or photographs showing the general configuration, dimensions, weight and layout must be included.
- e) Parts List: An all-inclusive Parts List, including electrical or mechanical description of each part, OEM part numbers, circuit references and associated costs must be included.
- f) Media: The manuals are to be in English or French and can be in either MS-Word 2003 or compatible or Adobe portable documents format (PDF) files.

4 EXTENDED WARRANTY

The Offeror must provide extended warranty. All extended warranty periods must contain the same conditions as the initial manufacturer's warranty. They can be for 5 and 10 year periods. The extended warranty must be available for purchase at the time of equipment purchase, or any time after initial purchase until the expiry of the manufacturer's warranty.

5 GLOSSARY

AES 256	Advanced Encryption Standard 256 bit
AGA	Air Ground Air
AM	Amplitude Modulation
C	Celsius

CCI	Controlled Crypto Device
CTAT	Canadian Technology Access and Transfer
db	Decibel
DC	Direct Current
DES Proc	Directorate of Electronics Procurement
DND	Department of National Defence
FM	Frequency Modulation
ITAR	International Traffic in Arms Regulations
ISED	Innovation, Science and Economic Development Canada
JSCSS	Joint Strategic Communications Support Services
kHz	Kilohertz
MHz	Megahertz
OEM	Original Equipment Manufacturer
PC	Personal Computer
PDF	Portable Document Format
PPM	Parts Per Million
RF	Radio Frequency
SINAD	Signal-to-noise and distortion ratio
SOA	Standing Offer Authority
SOR	Statement of Requirements
TA	Technical Authority
UHF	Ultra High Frequency
VHF	Very High Frequency



ANNEX B

TECHNICAL SPECIFICATIONS

VHF/UHF AM/FM HANDHELD RADIOS

AND

ANCILLARY EQUIPMENT

Issued By:

National Defence Headquarters

Joint Strategic Communications Support Services

Dated: 05 December 2016

Table of Contents

1	General	1
1.1	Scope	1
2	Mechanical Requirements.....	1
2.1	Transceiver Package	1
2.2	Mounting and Configuration	1
2.3	Chassis Construction	1
2.4	Panel Arrangement	1
2.5	Environmental Conditions.....	2
2.6	Environmental Factors	2
2.7	Environmental Specifications.....	2
3	Technical Requirements	2
3.1	Radio Characteristics	2
3.2	Radio Support.....	3
3.3	Ancillary Equipment	4
3.4	Non-Essential Ancillary Equipment	5
4	References	5

Table of Tables

Table I – Radio Requirements.....	2
Table II – Radio Administration.....	3
Table III – Ancillary Equipment	4
Table IV – Ancillary Equipment Non-essential.....	5

1 General

Department of National Defence (DND) has a requirement for Handheld VHF/UHF AM/FM radios. This document will define DND's technical and physical requirements.

1.1 Scope

This Statement of Technical Specification identifies the performance and construction specifications of the Handheld VHF/UHF AM/FM Radios required by DND. The primary use of these radios will be Air to Ground and Ground communications in both VHF and UHF bands.

2 Mechanical Requirements

2.1 Transceiver Package

The transceiver Package is listed at Annex A para 2.3.

2.2 Mounting and Configuration

- 2.2.1 The transceiver must come complete with a mounting harness/carrying case that is either strapped or buckled to a belt or webbing.
- 2.2.2 This equipment must be in low visibility non-reflective colours such as black or green.

2.3 Chassis Construction

The complete transceiver and power supply must be contained within an enclosed and hardened case that is ruggedly constructed so as to withstand shock and vibration (ref para 2.7 listed below).

2.4 Panel Arrangement

The following indicators, controls and switches, must be provided as a minimum on the transceiver:

- a) On/Off Power Switch;
- b) Volume Control;
- c) Transmit Indicator;
- d) Squelch Control;
- e) Channel Selector;
- f) Low battery Indicator;
- g) Backlit Keypad;
- h) Display Screen;
- i) Antenna Connector;

- j) PC Connector; and
- k) Push-To-Talk Switch.

2.5 Environmental Conditions

The transceiver and attachments must be capable of withstanding the following conditions;

- a) Temperature: Operating -30° to 60° C
Storage -20° to 60° C
- b) Humidity 90%
- c) Altitude 30,000 feet
- d) Immersion 2 meters of water

2.6 Environmental Factors

All switches, knobs and keypads must be capable of being operated during extreme cold weather where the operator could be wearing heavy gloves.

2.7 Environmental Specifications

The Transceiver must adhere to EIA-603-1992 or MIL-STD-810G (Annex B, Section 4 – References).

3 Technical Requirements

3.1 Radio Characteristics

The Transceiver must be capable of operating in the VHF Civilian and UHF Military Bands. The Offeror must provide Proof of Compliance to substantiate that they meet these requirements.

Table I – Radio Requirements

Item	Description	Specification
1	Band	Selectable Range: 30 to 512 MHz
2	Mode	AM and FM
3	Channels	Minimum of 25 programmable pre-set channels
4	Transmit Power	Output must be adjustable between 0.1 and 5.0 watts
5	Transmit Audio Distortion	Must be < 12%

6	Receive Sensitivity	-116 dBm 12 dB SINAD or better
7	Frequency Stability	Must be $> \pm 5$ PPM
8	Adjacent Channel Rejection	Must be ≥ 45 dB at ± 25 kHz at minimum
9	Receive Audio Distortion	Must be $< 12\%$ at rated audio power
10	Battery Indication	Must have an indication of battery charge level
11	Power Source	Must be powered by rechargeable battery Duty cycle must last a minimum of 8 hours based on 5/5/90 (transmit/receive/standby) usage
12	Connectors	Must be immersion sealed, connectors must be capable of being submersed in up to 2 meters of water.

3.2 Radio Support

The Transceiver must be software driven with the flexibility to not only be capable of clear voice communications but also be adaptable to alternate modes through encryption or operational software. The Offeror must provide Proof of Compliance to substantiate that they meet the requirements.

Table II – Radio Administration

Item	Description	Specification
1	Software	All software used for programming/control must be identified in the technical offer.
2	Software Installed	Radios must come equipped with all the required software
3	Software Compatibility	All software supplied must be compatible with Microsoft Windows 7.
4	Operational Waveforms	Must be capable of utilizing operational waveforms (i.e. HaveQuick I/II - HaveQuick capability must be between 225 to 400 MHz.)

5	Encryption	Must have the ability to operate in encrypted mode using AES 256 built in. It must not be a CCI (Controlled Crypto Device). Software loaded.
6	Reliability	Must have a proven Mean Time Between Failures of a minimum of 25,000 hours. Mean Time to Repair, for Level 1 corrective maintenance must be less than 10 minutes.

3.3 Ancillary Equipment

The Offeror must provide Proof of Compliance to substantiate that they meet the following specifications:

Table III – Ancillary Equipment

Item	Description	Specification
1	Battery Charger	Multi-Port Single Port
2	Microphones	Lapel Speaker Headset
3	Spare Batteries	Identical to battery that comes with the radio kit.
4	Radio	Transceiver only.
5	Programming Kit	Containing software, cables, and all other accessories needed to make the kit complete and fully program a transceiver with software.
6	Software	For programming/control of the transceiver or other major components. Must be compatible with Microsoft Windows 7.
7	Carrying Case	Identical to unit issued with offered package.
8	Antenna	Identical to unit issued with offered package.
9	Standard Cable	As per the radio-design requirements.

10	Standard Connector	As per the radio-design requirements.
----	--------------------	---------------------------------------

3.4 Non-Essential Ancillary Equipment

The offered Non-essential ancillary equipment must be compatible with the offered radios.

Table IV – Non-essential Ancillary Equipment

Item	Description	Specification
1	Spare Batteries	Alternative sized and/or high power batteries
2	Carrying Case	All applicable varieties
3	Antennas	Omni -band or band specific
4	Special Tools	Identify and provide information wrt any special tools that will be required for maintenance of the equipment as applicable.
5	Not Used.	
6	Not Used.	
7	Spare Parts Kit	Manufacturer's Recommended Spare Parts Kit for Field Level Repairs.

4 References

- a) Electronic Industries Alliance - <https://www.ihs.com/products/eia-standards.html>
- b) United States Military Standard MIL-STD-810G (Environmental Engineering Considerations and Laboratory Tests)

ANNEX E - COMPLIANCE MATRIX COMPLIANCE WITH ANNEX A - STATEMENT OF REQUIREMENT							
Item No.	Description	Compliant or Non-Compliant	Proposed Part No./s	Compliant or Non-Compliant	Proof of Compliance	Reference in Proposal (Document, Page No. Etc.)	Bidder's Comments
Reference Annex A							
1	Vendor must provide ITAR/CTAT codes to TA						
2	Hazardous material must be clearly marked in all technical publications and bulletins by part number and material						
3	Manufacturer must identify, to the TA and Contracting Authority (CA), any item that is scheduled for discontinuation, throughout the life of the Standing Offer						
4	Manufacturer must offer extended warranty periods						
5	Technical bulletins relating to modifications, repairs and operation of the equipment must be provided to the TA throughout the mandatory lifetime support of the equipment						
6	Maintenance Manuals must be provided for all major equipment, such as transceivers, power supply and vehicle adapters						
7	Maintenance Manuals must provide operation and testing details, block diagrams, schematics, sketches and parts lists						
8	Each radio package must consist of an UHF AM Handheld Transceiver, rechargeable battery, antenna, carrying case and operating manual						

9	The Offeror must provide Ancillary equipment as per Annex A - SOR.								
10	The Offeror must provide price & availability for the Non-essential Ancillary equipment with its offer.								

ANNEX E - COMPLIANCE MATRIX COMPLIANCE WITH ANNEX B - TECHNICAL SPECIFICATIONS						
Item No.	Description	Proposed Part No.s	Compliant or Non-Compliant	Proof of Compliance	Reference in Proposal (Document, Page No, Etc.)	Bidder's Comments
Reference Annex B						
1	Transceiver must come complete with a mounting harness/carrying case that is either strapped or buckled to a belt or webbing					
2	Equipment must be in low visibility non-reflective colours such as black or green					
3	Transceiver and power supply must be contained within an enclosed and hardened case that is ruggedly constructed so as to withstand shock and vibration					
4	On/Off Power Switch, Volume Control, Transmit Indicator, Squelch Control, Channel Selector, Low Battery Indicator, Backlit Keypad, Display Screen, Antenna Connector, PC Connector, and Push-To-Talk Switch must be on the Transceiver					
5	Transceiver must meet environmental conditions listed					
6	Transceiver must be capable of being operated with gloves					
7	Transceiver must adhere to EIA-603-1992 or MIL-STD-810G					
8	Transceiver must be capable of operating in the VHF Civilian and UHF Military Bands (30 to 512 MHz)					
9	Transceiver must be capable of working in AM and FM Mode					
10	Transceiver must have a minimum of 25 programmable pre-set channels					
11	Transmit power must be adjustable between 0.1 and 5.0 watts					
12	Transmit Audio Distortion must be < 12%					
13	Receive Sensitivity must be -116 dbm 12 dB SINAD or better					
14	Frequency stability must be > ± 5 PPM					
15	Adjacent Channel Rejection must be ≥ 45 dB at ± 25kHz at a minimum					
16	Receive Audio Distortion must be < 12% at rated audio power					

17	Must have an indication of battery charge level								
18	Must be powered by rechargeable battery								
19	Duty cycle must last a minimum of 8 hours based on 5/5/90 (transmit/receive/standby) usage								
20	Connectors must be immersion sealed to 2 meters								
21	Transceiver must be software driven with the flexibility to not only be capable of clear voice communications but also be adaptable to alternate modes through encryption or operational software								
22	All software used for programming/control must be identified in proposal.								
23	Radios must come equipped with software and DND must be granted functional use of the software.								
24	All software supplied must be compatible with Windows 7								
25	Must be capable of utilizing operational waveforms (i.e. HaveQuick /H, 225 to 400 MHz)								
26	Must have the ability to operate in encrypted mode using AES 256								
27	Transceiver must not be a CQ device								
28	Must have a proven Mean Time Between Failures of a minimum of 25,000 hours								
29	Mean Time to Repair for level 1 corrective maintenance must be less than 10 minutes								
30	Ancillary equipment must be listed as separate items and must be available as part of the standing offer.								