Part - Partie 1 of - de 2
See Part 2 for Clauses and Conditions
Voir Partie 2 pour Clauses et Conditions

Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Bid Receiving - PWGSC / Réception des soumissions - TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage , Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

Title - Sujet	
NMSO P25 Radios	

Solicitation No. - N° de l'invitation	Date
E60QD-171874/A	2017-02-02

Client Reference No. - N° de référence du client	Amendment No. - N° modif.
20171874	001

File No. - N° de dossier	CCC No./N° CCC - FMS No./N° VME
035qd.E60QD-171874	

GETS Reference No. - N° de référence de SEAG
PW-$$QD-035-26132

Date of Original Request for Standing Offer	
Date de la demande de l'offre à commandes originale	2017-01-11

Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-02-22	Time Zone Fuseau horaire Eastern Standard Time EST

Address Enquiries to: - Adresser toutes questions à:	Buyer Id - Id de l'acheteur
Weronski, Radek	035qd

Telephone No. - N° de téléphone	FAX No. - N° de FAX
(819) 420-1774 ( )	( ) -

Delivery Required - Livraison exigée

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:

Revision to a Request for a Standing Offer

Révision à une demande d'offre à commandes

National Master Standing Offer (NMSO)

Offre à commandes principale et nationale (OCPN)

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

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.

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Instructions: See Herein

Instructions: Voir aux présentes

Acknowledgement copy required Accusé de réception requis	Yes - Oui	No - Non

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

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

Canada

A. Questions from potential Offerors:

Q1. Considering that Solicitation E60QD-171874/A, is quite extensive and includes multiple streams, we are asking an extension of 4 weeks in order to have sufficient time to properly respond.

A1. As a result of project requirements from the client department, the RFSO closing date cannot be extended.

Q2. Regarding Section 8.2.3.3.6, stating that the Offerors must specify the signal level at the antenna port required to achieve DAQ3.4 in a fading environment, we believe that DAQ is more of an opinion measurement subject to interpretation rather than a technical measurement. Can you describe your expectation to report this subjective measurement?

A2. Please see Amendment section below.

Q3. Regarding Section 7.1.6, would you accept a dash mount mobile control head using soft-push keys, since it is acceptable for the handheld control head configuration?

> 7.1.6 Mobile radio must have a primary volume adjustment controlled via a single rotary control. For the handheld (covert) control head configuration soft-push keys are acceptable.

A3. The RCMP will not accept a dash mount mobile control head using soft-push keys as a primary means of volume adjustment, unless specified otherwise in the current RFSO.

Q4. Regarding Section 7.5 stating A single control head should be capable of controlling multiple mobile radios. Will multiple RF packages controlled by one or two control heads be acceptable for the dual band and multi band sections?

From annex_g-3_-_multi_band_rated_requirements_compliance_matrix

7.5 Mobile Radio Component Configurations

A single control head should be capable of controlling multiple Mobile Radios.

A4. The RCMP will accept multiple RF packages controlled by one or two control heads as acceptable for the dual band and multi band sections. In each instance all the components required to meet the dual and multi band section's requirements should be incorporated when providing your answers. As specified in section 7.3.2 should two or more mobile radios be required to meet the dual band or multi band requirement streams, the dimensions should include all required units.

Q5. There are multiple locations in Annex A that have **Error! Reference source not found.** Will these errors be corrected**?**

A5. Please see Amendment section below.

B. Amendment to RFSO:

1. Replace Annex A with Annex A – Amendment 1. The following has been modified in Annex A:

    1.1 In response to Q2 above, under sections 8.2.3.3.6, 8.2.4.3.6, 8.3.3.3.6, 8.3.4.3.6, 8.4.3.3.6 and 8.4.4.3.6, the following wording was deleted:

    "Offerors must specify the signal level required at the antenna port necessary to achieve DAQ3.4 in a fading environment."

    and replaced by:

    "Offerors must specify the signal level at the antenna port required to achieve a BER of 2.0% in a fading environment."

    1.2 In response to Q5 above, broken reference links throughout the document were corrected.

2. In response to Q2 above, In Annexes F1, F2, F3 and F4, under sections 8.2.3.3.6, 8.2.4.3.6, 8.3.3.3.6, 8.3.4.3.6, 8.4.3.3.6 and 8.4.4.3.6, the following wording was deleted:

    "Offerors must specify the signal level required at the antenna port necessary to achieve DAQ3.4 in a fading environment."

    and replaced by:

    "Offerors must specify the signal level at the antenna port required to achieve a BER of 2.0% in a fading environment."

STATEMENT OF REQUIREMENT

P25 SUBSCRIBER UNIT RADIO EQUIPMENT
(PORTABLE AND MOBILE)

FOR

THE ROYAL CANADIAN MOUNTED POLICE (RCMP)

Royal Canadian Gendarmerie royale
Mounted Police du Canada

Canada

Table of Contents

List of Tables

1   BACKGROUND

The Royal Canadian Mounted Police (RCMP) is responsible for three areas of law enforcement throughout Canada. These areas of responsibility include:

- Federal and International policing by Parliamentary Act.

- Protective Policing by Federal Act.

- Municipal Policing by Provincial Contract

The RCMP currently serves mission critical communication needs of over 20,000 members, 14,000 vehicles spread-out throughout 732 detachments.

The RCMP is geographically divided into 15 divisions across the country, each of which makes use of one or more radio systems.

These radio systems are a combination of leased or RCMP owned systems and operate in the following bands:

- The RCMP Operates radio systems in the 138-144 MHz and 148-174 MHz (VHF) Band;

- The RCMP Operates radio systems in the 406.1-430 MHz and 450-470 MHz (UHF) Band; and

- The RCMP Operates radio systems in the 768-776 MHz, 798-806 MHz, 806-824 MHz and 851-869 MHz (700/800) Band.

2   INTERPRETATION and SCOPE

2.1   Interpretation

2.1.1   Definitions

Project 25 (P25) or P25 Standard
Is a suite of standards for digital radio communications for use by federal, state/province and local Public safety organizations in North America to enable them to communicate with other agencies and mutual aid response teams in emergencies. The complete standards are found in the TIA-102 series of documents.

Useful Lifespan
Useful lifespan refers to estimated durations of utility on radio equipment assets. Useful lifespan estimations terminate at the point when a radio equipment asset is expected to become obsolete, require major repairs, or cease to deliver designed purpose of providing two-way RF communications.

Subscriber Unit (SU)

See "Radio Equipment".

Technical Specifications
Means this Statement of Requirement (SOR) and any appendices, annexes, attachments or referenced documents or standards such as, for example, Project 25 (P25).

Technical Authority
Has that meaning given to that term in the Articles of the Standing Offer.

Radio Equipment or radio equipment
Radio Equipment includes both portable and mobile radios supporting Land Mobile Radio (LMR) services. Radio Equipment may also be referred to "Subscriber Unit(s)" herein.

Duration of service and support
Is the period of time that an Offeror will support its product and includes any support which is provided by the Offeror once the product is past its official end of support time frame.

2.1.2   Acronyms

AC – Alternating Current

AES – Advanced Encryption Standard

BER – Bit Error Rate

BNC – Bayonet Neill-Concelman connector

C4FM – Continuous 4 level FM modulation

CLIN – Contractual Line Item Number

COTS – Commercial Off The Shelf

CQPSK – Compatible Quadrature Phase Shift Keying

CSA – Canadian Standards Association

DAQ3.4 – Delivered Audio Quality 3.4 as defined in TIA TSB 88

DC – Direct Current

DVR – Digital Vehicular Repeater

DVRS – Digital Vehicular Repeater System

ERTT – Emergency Request To Talk

FIPS – Federal Information Processing Standard

FM – Frequency Modulation

GPS – Global Positioning System

IP – Internet Protocol version 4 as defined by IETF RFC 791

IP54 – Ingress Protection Rating 54

KFD – Key Fill Device

KMF – Key Management Facility

LMR – Land Mobile Radio

MIL-STD – United States Defense Standard

MTBF – Mean Time Between Failure

NIST – National Institute of Standards and Technology

OS – Operating System

OTAP – Over The Air Programming

OTAR – Over The Air Re-keying

P25 – Project 25

PC – Personal Computer

PTT – Push To Talk

RCMP – Royal Canadian Mounted Police

RF – Radio Frequency

RFSO – Request For Standing Offer

RSM – Remote Speaker Microphone

RSS – Radio Standard Specifications

RTT - Request To Talk

SDoC - Supplier Declaration of Conformance

SLN – Storage Location Number

SNDCP - SubNetwork Dependent Convergence Protocol

SOR – Statement Of Requirements

SRSP – Standard Radio System Plan

SU – Subscriber Unit

TIA – Telecommunications Industry Association

TCP – Transmission Control Protocol

UDP – User Datagram Protocol

UHF – Ultra High Frequency

UKEK – Unique Key Encryption Key

USB – Universal Serial Bus

VHF – Very High Frequency

2.1.3   General provisions

2.1.3.1 In this SOR, unless the context requires otherwise:

a) The word(s) "include", "includes", "included", "including", and the like mean "including, without limitation"; and

b) Legislation, Regulations, Rules, policies, directives or any other documents listed in this SOR means a reference to such item as it may be varied, amended, supplemented, replaced, enacted, re-enacted or extended from time to time; and

c) If a certification or registration is required, the certification or registration must be current as of the date of the close of the RFSO solicitation period, and remain current throughout the period of the Standing Offer and any Contract whose term extends beyond the period of the Standing Offer. The Offeror must provide proof of such certification or registration prior to the close of the RFSO solicitation period and at any time thereafter if so requested by the Standing Offer Authority or any Contracting Authority.

2.1.4   References

a) RADIO COMMUNICATIONS ACT (RSC, 1985, C. R-2)

b) RSS-GEN issued by Innovation, Science and Economic Development (Industry Canada) (Issue 4, November 2014)

c) RSS-102 issued by Innovation, Science and Economic Development (Industry Canada) (Issue 5, March 2015)

d) RSS-119 issued by Innovation, Science and Economic Development (Industry Canada) (Issue 12, May 2015)

e) CS-03 issued by Innovation, Science and Economic Development (Industry Canada)

f) TIA – 102 (APCO Project 25 Standards Suite of Documents)

g) IETF IPv4 Standards

h) SRSP-502 issued by Innovation, Science and Economic Development (Industry Canada) (Issue 5, November 2013)

i) SRSP-511 issued by Innovation, Science and Economic Development (Industry Canada) (Issue 2, April 2010)

j) SRSP- 501 issued by Innovation, Science and Economic Development (Industry Canada) (Issue 5, October 2004)

k) SRSP-500 issued by Innovation, Science and Economic Development (Industry Canada) (Issue 1, March 2004)

l) IP54 (ANSI/IEC Standard 60529-2004, November, 2004)

m) ISO 9001:2008 Quality management systems, International Standards Organization (Edition 4, November 2008)

n) FIPS PUB 140-2, Federal Information Processing Standards Publication (November, 2001)

o) FIPS PUB 197, Federal Information Processing Standards Publication (November, 2001)

2.2   Scope

2.2.1   The Offeror must supply Radio Equipment (Portable and Mobile) that is compatible with the P25 Standard;

2.2.2   The Offeror must supply the P25 Radio Equipment (Portable and Mobile) as specified in this Statement of Requirement (SOR) on "as and when requested" basis in accordance with the quantities described in Call-ups; and

2.2.3   For single band Radio equipment, the Offeror must supply radio equipment capable of single band operation in each of the 3 bands as identified in section 8 of this SOR.

2.2.4   For dual band Radio equipment, the Offeror must supply radio equipment capable of dual band operation in any combination of each of the 3 bands as identified in section 8 of this SOR.

2.2.5   For multi band Radio equipment, the Offeror must supply radio equipment capable of multi-band operation in all 3 bands as identified in section 8 of this SOR.

2.2.6   Single, Dual and Multi-band radio equipment must conform to band specific requirements for each supported band(s) as defined in section 8 of this SOR.

2.2.7   For P25 Digital Vehicular Repeater Systems, the Offeror must supply systems that meet all requirements of section 9 of this SOR.

3   REQUIREMENT

The Offeror must supply Radio Equipment as defined in the tables below on "as and when requested" basis.

<u>(M) = Mandatory CLIN / (O) = Optional CLIN</u>

3.1   P25 Single Band Radio

3.1.1   CLIN 1: P25 Single Band Portable Radio Full Keypad

Table 1 CLIN 1

Item	CLIN 1 - P25 Single Band Portable Radio Full Keypad
(M) CLIN 1-1	Portable Radio - (136-174) MHz
(O) CLIN 1-2	Portable Radio - (136-174) MHz with OTAP
(O) CLIN 1-3	Portable Radio - (136-174) MHz with Top Facing Display
(O) CLIN 1-4	Portable Radio - (136-174) MHz with Top Facing Display and OTAP
(M) CLIN 1-5	Portable Radio - (136-174) MHz with 5 year warranty
(M) CLIN 1-6	Portable Radio - (136-174) MHz with 7 year warranty
(M) CLIN 1-7	Portable Radio - (136-174) MHz with 10 year warranty
(O) CLIN 1-8	Portable Radio - (136-174) MHz with OTAP with 5 year warranty
(O) CLIN 1-9	Portable Radio - (136-174) MHz with OTAP with 7 year warranty
(O) CLIN 1-10	Portable Radio - (136-174) MHz with OTAP with 10 year warranty
(O) CLIN 1-11	Portable Radio - (136-174) MHz with Top Facing Display with 5 year warranty
(O) CLIN 1-12	Portable Radio - (136-174) MHz with Top Facing Display with 7 year warranty
(O) CLIN 1-13	Portable Radio - (136-174) MHz with Top Facing Display with 10 year warranty
(O) CLIN 1-14	Portable Radio - (136-174) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 1-15	Portable Radio - (136-174) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 1-16	Portable Radio - (136-174) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 1-17	Portable Radio - (400-470) MHz
(O) CLIN 1-18	Portable Radio - (400-470) MHz with OTAP
(O) CLIN 1-19	Portable Radio - (400-470) MHz with Top Facing Display
(O) CLIN 1-20	Portable Radio - (400-470) MHz with Top Facing Display and OTAP
(M) CLIN 1-21	Portable Radio - (400-470) MHz with 5 year warranty
(M) CLIN 1-22	Portable Radio - (400-470) MHz with 7 year warranty
(M) CLIN 1-23	Portable Radio - (400-470) MHz with 10 year warranty

(O) CLIN 1-24	Portable Radio - (400-470) MHz with OTAP with 5 year warranty
(O) CLIN 1-25	Portable Radio - (400-470) MHz with OTAP with 7 year warranty
(O) CLIN 1-26	Portable Radio - (400-470) MHz with OTAP with 10 year warranty
(O) CLIN 1-27	Portable Radio - (400-470) MHz with Top Facing Display with 5 year warranty
(O) CLIN 1-28	Portable Radio - (400-470) MHz with Top Facing Display with 7 year warranty
(O) CLIN 1-29	Portable Radio - (400-470) MHz with Top Facing Display with 10 year warranty
(O) CLIN 1-30	Portable Radio - (400-470) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 1-31	Portable Radio - (400-470) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 1-32	Portable Radio - (400-470) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 1-33	Portable Radio - (700-800) MHz
(O) CLIN 1-34	Portable Radio - (700-800MHz with OTAP
(O) CLIN 1-35	Portable Radio - (700-800) MHz with Top Facing Display
(O) CLIN 1-36	Portable Radio - (700-800) MHz with Top Facing Display and OTAP
(M) CLIN 1-37	Portable Radio - (700-800) MHz with 5 year warranty
(M) CLIN 1-38	Portable Radio - (700-800) MHz with 7 year warranty
(M) CLIN 1-39	Portable Radio - (700-800) MHz with 10 year warranty
(O) CLIN 1-40	Portable Radio - (700-800) MHz with OTAP with 5 year warranty
(O) CLIN 1-41	Portable Radio - (700-800) MHz with OTAP with 7 year warranty
(O) CLIN 1-42	Portable Radio - (700-800) MHz with OTAP with 10 year warranty
(O) CLIN 1-43	Portable Radio - (700-800) MHz with Top Facing Display with 5 year warranty
(O) CLIN 1-44	Portable Radio - (700-800) MHz with Top Facing Display with 7 year warranty
(O) CLIN 1-45	Portable Radio - (700-800) MHz with Top Facing Display with 10 year warranty

(O) CLIN 1-46	Portable Radio - (700-800) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 1-47	Portable Radio - (700-800) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 1-48	Portable Radio - (700-800) MHz with Top Facing Display, OTAP and with 10 year warranty

Note:
CLIN 1 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 1 must be delivered with the following accessories:

    a. One - Single Battery charger as per **Error! Reference source not found.**;
    b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
    c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
    d. One – Antenna as per section 6.7; and
    e. One – "D" clip as per section 6.12.7

3.1.2   CLIN 2: P25 Single Band Portable Radio Limited Keypad (Navigation keys only)

Table 2 CLIN 2

Item	CLIN 2 - P25 Single Band Portable Radio Limited Keypad
(M) CLIN 2-1	Portable Radio - (136-174) MHz
(O) CLIN 2-2	Portable Radio - (136-174) MHz with OTAP
(O) CLIN 2-3	Portable Radio - (136-174) MHz with Top Facing Display
(O) CLIN 2-4	Portable Radio - (136-174) MHz with Top Facing Display and OTAP
(M) CLIN 2-5	Portable Radio - (136-174) MHz with 5 year warranty
(M) CLIN 2-6	Portable Radio - (136-174) MHz with 7 year warranty
(M) CLIN 2-7	Portable Radio - (136-174) MHz with 10 year warranty
(O) CLIN 2-8	Portable Radio - (136-174) MHz with OTAP with 5 year warranty
(O) CLIN 2-9	Portable Radio - (136-174) MHz with OTAP with 7 year warranty
(O) CLIN 2-10	Portable Radio - (136-174) MHz with OTAP with 10 year warranty
(O) CLIN 2-11	Portable Radio - (136-174) MHz with Top Facing Display with 5 year warranty
(O) CLIN 2-12	Portable Radio - (136-174) MHz with Top Facing Display with 7 year warranty
(O) CLIN 2-13	Portable Radio - (136-174) MHz with Top Facing Display with 10 year warranty

(O) CLIN 2-14	Portable Radio - (136-174) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 2-15	Portable Radio - (136-174) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 2-16	Portable Radio - (136-174) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 2-17	Portable Radio - (400-470) MHz
(O) CLIN 2-18	Portable Radio - (400-470) MHz with OTAP
(O) CLIN 2-19	Portable Radio - (400-470) MHz with Top Facing Display
(O) CLIN 2-20	Portable Radio - (400-470) MHz with Top Facing Display and OTAP
(M) CLIN 2-21	Portable Radio - (400-470) MHz with 5 year warranty
(M) CLIN 2-22	Portable Radio - (400-470) MHz with 7 year warranty
(M) CLIN 2-23	Portable Radio - (400-470) MHz with 10 year warranty
(O) CLIN 2-24	Portable Radio - (400-470) MHz with OTAP with 5 year warranty
(O) CLIN 2-25	Portable Radio - (400-470) MHz with OTAP with 7 year warranty
(O) CLIN 2-26	Portable Radio - (400-470) MHz with OTAP with 10 year warranty
(O) CLIN 2-27	Portable Radio - (400-470) MHz with Top Facing Display with 5 year warranty
(O) CLIN 2-28	Portable Radio - (400-470) MHz with Top Facing Display with 7 year warranty
(O) CLIN 2-29	Portable Radio - (400-470) MHz with Top Facing Display with 10 year warranty
(O) CLIN 2-30	Portable Radio - (400-470) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 2-31	Portable Radio - (400-470) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 2-32	Portable Radio - (400-470) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 2-33	Portable Radio - (700-800) MHz
(O) CLIN 2-34	Portable Radio - (700-800MHz with OTAP
(O) CLIN 2-35	Portable Radio - (700-800) MHz with Top Facing Display
(O) CLIN 2-36	Portable Radio - (700-800) MHz with Top Facing Display and OTAP
(M) CLIN 2-37	Portable Radio - (700-800) MHz with 5 year warranty

(M) CLIN 2-38	Portable Radio - (700-800) MHz with 7 year warranty
(M) CLIN 2-39	Portable Radio - (700-800) MHz with 10 year warranty
(O) CLIN 2-40	Portable Radio - (700-800) MHz with OTAP with 5 year warranty
(O) CLIN 2-41	Portable Radio - (700-800) MHz with OTAP with 7 year warranty
(O) CLIN 2-42	Portable Radio - (700-800) MHz with OTAP with 10 year warranty
(O) CLIN 2-43	Portable Radio - (700-800) MHz with Top Facing Display with 5 year warranty
(O) CLIN 2-44	Portable Radio - (700-800) MHz with Top Facing Display with 7 year warranty
(O) CLIN 2-45	Portable Radio - (700-800) MHz with Top Facing Display with 10 year warranty
(O) CLIN 2-46	Portable Radio - (700-800) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 2-47	Portable Radio - (700-800) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 2-48	Portable Radio - (700-800) MHz with Top Facing Display, OTAP and with 10 year warranty

Note:
CLIN 2 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 2 must be delivered with the following accessories:

  a. One - Single Battery charger as per **Error! Reference source not found.**;
  b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
  c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
  d. One – Antenna as per section 6.7; and
  e. One - "D" clip as per section 6.12.7

3.1.3   CLIN 3: P25 Single Band Portable Radio No Keypad

Table 3 CLIN 3

Item	CLIN 3 - P25 Single Band Portable Radio No Keypad
(M) CLIN 3-1	Portable Radio - (136-174) MHz
(O) CLIN 3-2	Portable Radio - (136-174) MHz with OTAP
(O) CLIN 3-3	Portable Radio - (136-174) MHz with Top Facing Display

(O) CLIN 3-4	Portable Radio - (136-174) MHz with Top Facing Display and OTAP
(M) CLIN 3-5	Portable Radio - (136-174) MHz with 5 year warranty
(M) CLIN 3-6	Portable Radio - (136-174) MHz with 7 year warranty
(M) CLIN 3-7	Portable Radio - (136-174) MHz with 10 year warranty
(O) CLIN 3-8	Portable Radio - (136-174) MHz with OTAP with 5 year warranty
(O) CLIN 3-9	Portable Radio - (136-174) MHz with OTAP with 7 year warranty
(O) CLIN 3-10	Portable Radio - (136-174) MHz with OTAP with 10 year warranty
(O) CLIN 3-11	Portable Radio - (136-174) MHz with Top Facing Display with 5 year warranty
(O) CLIN 3-12	Portable Radio - (136-174) MHz with Top Facing Display with 7 year warranty
(O) CLIN 3-13	Portable Radio - (136-174) MHz with Top Facing Display with 10 year warranty
(O) CLIN 3-14	Portable Radio - (136-174) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 3-15	Portable Radio - (136-174) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 3-16	Portable Radio - (136-174) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 3-17	Portable Radio - (400-470) MHz
(O) CLIN 3-18	Portable Radio - (400-470) MHz with OTAP
(O) CLIN 3-19	Portable Radio - (400-470) MHz with Top Facing Display
(O) CLIN 3-20	Portable Radio - (400-470) MHz with Top Facing Display and OTAP
(M) CLIN 3-21	Portable Radio - (400-470) MHz with 5 year warranty
(M) CLIN 3-22	Portable Radio - (400-470) MHz with 7 year warranty
(M) CLIN 3-23	Portable Radio - (400-470) MHz with 10 year warranty
(O) CLIN 3-24	Portable Radio - (400-470) MHz with OTAP with 5 year warranty
(O) CLIN 3-25	Portable Radio - (400-470) MHz with OTAP with 7 year warranty
(O) CLIN 3-26	Portable Radio - (400-470) MHz with OTAP with 10 year warranty
(O) CLIN 3-27	Portable Radio - (400-470) MHz with Top Facing Display with 5 year warranty
(O) CLIN 3-28	Portable Radio - (400-470) MHz with Top Facing Display with 7 year warranty
(O) CLIN 3-29	Portable Radio - (400-470) MHz with Top Facing Display with 10 year warranty

(O) CLIN 3-30	Portable Radio - (400-470) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 3-31	Portable Radio - (400-470) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 3-32	Portable Radio - (400-470) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 3-33	Portable Radio - (700-800) MHz
(O) CLIN 3-34	Portable Radio - (700-800MHz with OTAP
(O) CLIN 3-35	Portable Radio - (700-800) MHz with Top Facing Display
(O) CLIN 3-36	Portable Radio - (700-800) MHz with Top Facing Display and OTAP
(M) CLIN 3-37	Portable Radio - (700-800) MHz with 5 year warranty
(M) CLIN 3-38	Portable Radio - (700-800) MHz with 7 year warranty
(M) CLIN 3-39	Portable Radio - (700-800) MHz with 10 year warranty
(O) CLIN 3-40	Portable Radio - (700-800) MHz with OTAP with 5 year warranty
(O) CLIN 3-41	Portable Radio - (700-800) MHz with OTAP with 7 year warranty
(O) CLIN 3-42	Portable Radio - (700-800) MHz with OTAP with 10 year warranty
(O) CLIN 3-43	Portable Radio - (700-800) MHz with Top Facing Display with 5 year warranty
(O) CLIN 3-44	Portable Radio - (700-800) MHz with Top Facing Display with 7 year warranty
(O) CLIN 3-45	Portable Radio - (700-800) MHz with Top Facing Display with 10 year warranty
(O) CLIN 3-46	Portable Radio - (700-800) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 3-47	Portable Radio - (700-800) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 3-48	Portable Radio - (700-800) MHz with Top Facing Display, OTAP and with 10 year warranty

Note:
CLIN 3 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 3 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;

d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.1.4 CLIN 4: P25 Single Band Radios Accessories

Table 4 CLIN 4

Item	CLIN 4 - P25 Single Band Radios Accessories
(M) CLIN 4-1	Portable radio high capacity Li-ion battery
(M) CLIN 4-2	Portable radio extra high capacity rechargeable battery
(O) CLIN 4-3	Portable radio battery
(M) CLIN 4-4	Portable Radio Key Fill Device
(M) CLIN 4-5	Radio Programming Software and Cable (USB 2.0 or 3.0) for Portable Radios
(M) CLIN 4-6	Portable radio removable, flexible, coated antenna (136-174) MHz
(M) CLIN 4-7	Portable radio removable, flexible, coated antenna (400-470) MHz
(M) CLIN 4-8	Portable radio removable, flexible, coated antenna (700-800) MHz
(M) CLIN 4-9	Portable radio battery charger Single unit
(M) CLIN 4-10	Portable radio battery charger Multi Bay unit
(M) CLIN 4-11	Portable radio battery Vehicle charger
(M) CLIN 4-12	Portable Radio Remote Speaker Microphone
(M) CLIN 4-13	Portable Radio Traffic and motorcycle headset and helmet kits
(M) CLIN 4-14	Portable Radio Speaker/microphone suitable for marine environment
(M) CLIN 4-15	Portable Radio Ear microphone kit
(M) CLIN 4-16	Portable Radio Bluetooth kits
(M) CLIN 4-17	Portable Radio 3-Wire Surveillance accessories with wired ear pieces
(M) CLIN 4-18	Portable Radio Surveillance accessories with induction wireless ear pieces
(M) CLIN 4-19	Portable Radio Skull/bone conducting microphone
(M) CLIN 4-20	Portable Radio leather carrying case with restraining straps
(M) CLIN 4-21	Portable Radio nylon carrying case with restraining straps
(M) CLIN 4-22	Portable Radio "D" swivel clip
(M) CLIN 4-23	Portable Radio Belt clip

3.1.5   CLIN 5: P25 Single Band Mobile Radio Dash-Mount Configuration

Table 5 CLIN 5

Item	CLIN 5 - P25 Single Band Mobile Radio Dash-Mount
(M) CLIN 5-1	Mobile Radio - (136-174) MHz
(O) CLIN 5-2	Mobile Radio - (136-174) MHz with OTAP
(M) CLIN 5-3	Mobile Radio - (136-174) MHz with 5 year warranty
(M) CLIN 5-4	Mobile Radio - (136-174) MHz with 7 year warranty
(M) CLIN 5-5	Mobile Radio - (136-174) MHz with 10 year warranty
(O) CLIN 5-6	Mobile Radio - (136-174) MHz with OTAP with 5 year warranty
(O) CLIN 5-7	Mobile Radio - (136-174) MHz with OTAP with 7 year warranty
(O) CLIN 5-8	Mobile Radio - (136-174) MHz with OTAP with 10 year warranty
(M) CLIN 5-9	Mobile Radio - (400-470) MHz
(O) CLIN 5-10	Mobile Radio - (400-470) MHz with OTAP
(M) CLIN 5-11	Mobile Radio - (400-470) MHz with 5 year warranty
(M) CLIN 5-12	Mobile Radio - (400-470) MHz with 7 year warranty
(M) CLIN 5-13	Mobile Radio - (400-470) MHz with 10 year warranty
(O) CLIN 5-14	Mobile Radio - (400-470) MHz with OTAP with 5 year warranty
(O) CLIN 5-15	Mobile Radio - (400-470) MHz with OTAP with 7 year warranty
(O) CLIN 5-16	Mobile Radio - (400-470) MHz with OTAP with 10 year warranty
(M) CLIN 5-17	Mobile Radio - (700-800) MHz
(O) CLIN 5-18	Mobile Radio - (700-800) MHz with OTAP
(M) CLIN 5-19	Mobile Radio - (700-800) MHz with 5 year warranty
(M) CLIN 5-20	Mobile Radio - (700-800) MHz with 7 year warranty
(M) CLIN 5-21	Mobile Radio - (700-800) MHz with 10 year warranty
(O) CLIN 5-22	Mobile Radio - (700-800) MHz with OTAP with 5 year warranty

(O) CLIN 5-23	Mobile Radio - (700-800) MHz with OTAP with 7 year warranty
(O) CLIN 5-24	Mobile Radio - (700-800) MHz with OTAP with 10 year warranty

Note:
CLIN 5 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 5 must be delivered with the following accessories:

   a. One - Mobile Radio front Panel;
   b. One - Separate Microphone as per section 7.5.3.2;
   c. One – Separate External Speaker as per section **Error! Reference source not found.**; and
   d. One – Antenna as per section 7.6;

3.1.6   CLIN 6: P25 Single Band Mobile Radios Dash-Mount Accessories

Table 6 CLIN 6

Item	CLIN 6 - P25 Single Band Mobile Radios Dash-Mount Accessories
(M) CLIN 6-1	Mobile Radio Key Fill Device
(M) CLIN 6-2	Radio Programming Software and Cable (USB 2.0 or 3.0) for Mobile Radios
(M) CLIN 6-3	Mobile Radio antenna (136-174) MHz
(M) CLIN 6-4	Mobile Radio antenna (400-470) MHz
(M) CLIN 6-5	Mobile Radio antenna (700-800) MHz
(M) CLIN 6-6	Mobile Radio – External Microphone
(M) CLIN 6-7	Mobile Radio – External Speaker
(M) CLIN 6-8	Mobile Radio – Front Panel
(M) CLIN 6-9	Mobile Radio – Mounting Bracket

3.1.7   CLIN 7: P25 Single Band Mobile Radio Trunk-Mount Configuration

Table 7 CLIN 7

Item	CLIN 7 - P25 Single Band Mobile Radio Trunk-Mount
(M) CLIN 7-1	Mobile Radio Single Control Head - (136-174) MHz

(M) CLIN 7-2	Mobile Radio Dual Control Head - (136-174) MHz
(O) CLIN 7-3	Mobile Radio Single Control Head - (136-174) MHz with OTAP
(O) CLIN 7-4	Mobile Radio Dual Control Head - (136-174) MHz with OTAP
(M) CLIN 7-5	Mobile Radio Single Control Head - (136-174) MHz with 5 year warranty
(M) CLIN 7-6	Mobile Radio Dual Control Head - (136-174) MHz with 5 year warranty
(M) CLIN 7-7	Mobile Radio Single Control Head - (136-174) MHz with 7 year warranty
(M) CLIN 7-8	Mobile Radio Dual Control Head - (136-174) MHz with 7 year warranty
(M) CLIN 7-9	Mobile Radio Single Control Head - (136-174) MHz with 10 year warranty
(M) CLIN 7-10	Mobile Radio Dual Control Head - (136-174) MHz with 10 year warranty
(O) CLIN 7-11	Mobile Radio Single Control Head - (136-174) MHz with OTAP with 5 year warranty
(O) CLIN 7-12	Mobile Radio Dual Control Head - (136-174) MHz with OTAP with 5 year warranty
(O) CLIN 7-13	Mobile Radio Single Control Head - (136-174) MHz with OTAP with 7 year warranty
(O) CLIN 7-14	Mobile Radio Dual Control Head - (136-174) MHz with OTAP with 7 year warranty
(O) CLIN 7-15	Mobile Radio Single Control Head - (136-174) MHz with OTAP with 10 year warranty
(O) CLIN 7-16	Mobile Radio Dual Control Head - (136-174) MHz with OTAP with 10 year warranty
(M) CLIN 7-17	Mobile Radio Single Control Head - (400-470) MHz
(M) CLIN 7-18	Mobile Radio Dual Control Head - (400-470) MHz
(O) CLIN 7-19	Mobile Radio Single Control Head - (400-470) MHz with OTAP
(O) CLIN 7-20	Mobile Radio Dual Control Head - (400-470) MHz with OTAP
(M) CLIN 7-21	Mobile Radio Single Control Head - (400-470) MHz with 5 year warranty
(M) CLIN 7-22	Mobile Radio Dual Control Head - (400-470) MHz with 5 year warranty
(M) CLIN 7-23	Mobile Radio Single Control Head - (400-470) MHz with 7 year warranty
(M) CLIN 7-24	Mobile Radio Dual Control Head - (400-470) MHz with 7 year warranty
(M) CLIN 7-25	Mobile Radio Single Control Head - (400-470) MHz with 10 year warranty
(M) CLIN 7-26	Mobile Radio Dual Control Head - (400-470) MHz with 10 year warranty
(O) CLIN 7-27	Mobile Radio Single Control Head - (400-470) MHz with OTAP with 5 year warranty

(O) CLIN 7-28	Mobile Radio Dual Control Head - (400-470) MHz with OTAP with 5 year warranty
(O) CLIN 7-29	Mobile Radio Single Control Head - (400-470) MHz with OTAP with 7 year warranty
(O) CLIN 7-30	Mobile Radio Dual Control Head - (400-470) MHz with OTAP with 7 year warranty
(O) CLIN 7-31	Mobile Radio Single Control Head - (400-470) MHz with OTAP with 10 year warranty
(O) CLIN 7-32	Mobile Radio Dual Control Head - (400-470) MHz with OTAP with 10 year warranty
(M) CLIN 7-33	Mobile Radio Single Control Head - (700-800) MHz
(M) CLIN 7-34	Mobile Radio Dual Control Head - (700-800) MHz
(O) CLIN 7-35	Mobile Radio Single Control Head - (700-800) MHz with OTAP
(O) CLIN 7-36	Mobile Radio Dual Control Head - (700-800) MHz with OTAP
(M) CLIN 7-37	Mobile Radio Single Control Head - (700-800) MHz with 5 year warranty
(M) CLIN 7-38	Mobile Radio Dual Control Head - (700-800) MHz with 5 year warranty
(M) CLIN 7-39	Mobile Radio Single Control Head - (700-800) MHz with 7 year warranty
(M) CLIN 7-40	Mobile Radio Dual Control Head - (700-800) MHz with 7 year warranty
(M) CLIN 7-41	Mobile Radio Single Control Head - (700-800) MHz with 10 year warranty
(M) CLIN 7-42	Mobile Radio Dual Control Head - (700-800) MHz with 10 year warranty
(O) CLIN 7-43	Mobile Radio Single Control Head - (700-800) MHz with OTAP with 5 year warranty
(O) CLIN 7-44	Mobile Radio Dual Control Head - (700-800) MHz with OTAP with 5 year warranty
(O) CLIN 7-45	Mobile Radio Single Control Head - (700-800) MHz with OTAP with 7 year warranty
(O) CLIN 7-46	Mobile Radio Dual Control Head - (700-800) MHz with OTAP with 7 year warranty
(O) CLIN 7-47	Mobile Radio Single Control Head - (700-800) MHz with OTAP with 10 year warranty
(O) CLIN 7-48	Mobile Radio Dual Control Head - (700-800) MHz with OTAP with 10 year warranty

Note:
CLIN 7 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 7 must be delivered with the following accessories:

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a. One - Control Head;
b. One - Control Head Cable (5m or more) with locking connectors;
c. One - Separate Microphone as per section 7.5.3.2;
d. One - Flat mount installation bracket;
e. One - Separate External Speaker as per section **Error! Reference source not found.**; and
f. One - Antenna as per section 7.6;

3.1.8   CLIN 8: P25 Single Band Mobile Radios Trunk-Mount Accessories

Table 8 CLIN 8

Item	CLIN 8 - P25 Single Band Mobile Radios Trunk-Mount Accessories
(M) CLIN 8-1	Mobile Radio Key Fill Device
(M) CLIN 8-2	Radio Programming Software and Cable (USB 2.0 or 3.0) for Mobile Radios
(M) CLIN 8-3	Mobile Radio antenna (136-174) MHz
(M) CLIN 8-4	Mobile Radio antenna (400-470) MHz
(M) CLIN 8-5	Mobile Radio antenna (700-800) MHz
(M) CLIN 8-6	Mobile Radio – External Microphone
(M) CLIN 8-7	Mobile Radio – External Speaker
(M) CLIN 8-8	Mobile Radio – Control Head single radio control
(O) CLIN 8-9	Mobile Radio - Control Head multi radio control
(M) CLIN 8-10	Mobile Radio - Control Head Installation cables (5 meters or longer)
(M) CLIN 8-11	Mobile Radio – Flat Mount Installation Bracket

3.1.9   CLIN 9: P25 Single Band Mobile Radio Covert Configuration

Table 9 CLIN 9

Item	CLIN 9 - P25 Single Band Mobile Radio Covert
(M) CLIN 9-1	Mobile Radio - (136-174) MHz
(O) CLIN 9-2	Mobile Radio - (136-174) MHz with OTAP

(M) CLIN 9-3	Mobile Radio - (136-174) MHz with 5 year warranty
(M) CLIN 9-4	Mobile Radio - (136-174) MHz with 7 year warranty
(M) CLIN 9-5	Mobile Radio - (136-174) MHz with 10 year warranty
(O) CLIN 9-6	Mobile Radio - (136-174) MHz with OTAP with 5 year warranty
(O) CLIN 9-7	Mobile Radio - (136-174) MHz with OTAP with 7 year warranty
(O) CLIN 9-8	Mobile Radio - (136-174) MHz with OTAP with 10 year warranty
(M) CLIN 9-9	Mobile Radio - (400-470) MHz
(O) CLIN 9-10	Mobile Radio - (400-470) MHz with OTAP
(M) CLIN 9-11	Mobile Radio - (400-470) MHz with 5 year warranty
(M) CLIN 9-12	Mobile Radio - (400-470) MHz with 7 year warranty
(M) CLIN 9-13	Mobile Radio - (400-470) MHz with 10 year warranty
(O) CLIN 9-14	Mobile Radio - (400-470) MHz with OTAP with 5 year warranty
(O) CLIN 9-15	Mobile Radio - (400-470) MHz with OTAP with 7 year warranty
(O) CLIN 9-16	Mobile Radio - (400-470) MHz with OTAP with 10 year warranty
(M) CLIN 9-17	Mobile Radio - (700-800) MHz
(O) CLIN 9-18	Mobile Radio - (700-800) MHz with OTAP
(M) CLIN 9-19	Mobile Radio - (700-800) MHz with 5 year warranty
(M) CLIN 9-20	Mobile Radio - (700-800) MHz with 7 year warranty
(M) CLIN 9-21	Mobile Radio - (700-800) MHz with 10 year warranty
(O) CLIN 9-22	Mobile Radio - (700-800) MHz with OTAP with 5 year warranty
(O) CLIN 9-23	Mobile Radio - (700-800) MHz with OTAP with 7 year warranty
(O) CLIN 9-24	Mobile Radio - (700-800) MHz with OTAP with 10 year warranty

Note:
CLIN 9 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 9 must be delivered with the following accessories:

    a.   One – Handheld Control Head with integrated microphone;
    b.   One - Control Head Cable (5m or more) with locking connectors;
    c.   One - Separate External Speaker; and
    d.   One - Antenna as per section 7.6;

3.1.10 CLIN 10: P25 Single Band Mobile Radios Covert Accessories

Table 10 CLIN 10

Item	CLIN 10 - P25 Single Band Mobile Radios Covert Accessories
(M) CLIN 10-1	Mobile Radio Key Fill Device
(M) CLIN 10-2	Radio Programming Software and Cable (USB 2.0 or 3.0) for Mobile Radios
(O) CLIN 10-3	Mobile Radio Low profile antenna (136-174) MHz
(O) CLIN 10-4	Mobile Radio Low profile antenna (400-470) MHz
(O) CLIN 10-5	Mobile Radio Low profile antenna (700-800) MHz
(M) CLIN 10-6	Mobile Radio – Handheld Control Head with integrated microphone
(M) CLIN 10-7	Mobile Radio – External Speaker
(M) CLIN 10-8	Mobile Radio – Handheld Control Head Installation cables (5 meters or longer)

3.2 P25 Dual Band Radio

3.2.1 CLIN 11: P25 Dual Band Portable Radio Full Keypad

Table 11 CLIN 11

Item	CLIN 11 - P25 Dual Band Portable Radio Full Keypad
(M) CLIN 11-1	Portable Radio - (136-174, 400-470) MHz
(O) CLIN 11-2	Portable Radio - (136-174, 400-470) MHz with OTAP
(O) CLIN 11-3	Portable Radio - (136-174, 400-470) MHz with Top Facing Display
(O) CLIN 11-4	Portable Radio - (136-174, 400-470) MHz with Top Facing Display and OTAP
(M) CLIN 11-5	Portable Radio - (136-174, 400-470) MHz with 5 year warranty
(M) CLIN 11-6	Portable Radio - (136-174, 400-470) MHz with 7 year warranty
(M) CLIN 11-7	Portable Radio - (136-174, 400-470) MHz with 10 year warranty
(O) CLIN 11-8	Portable Radio - (136-174, 400-470) MHz with OTAP with 5 year warranty
(O) CLIN 11-9	Portable Radio - (136-174, 400-470) MHz with OTAP with 7 year warranty

(O) CLIN 11-10	Portable Radio - (136-174, 400-470) MHz with OTAP with 10 year warranty
(O) CLIN 11-11	Portable Radio - (136-174, 400-470) MHz with Top Facing Display with 5 year warranty
(O) CLIN 11-12	Portable Radio - (136-174, 400-470) MHz with Top Facing Display with 7 year warranty
(O) CLIN 11-13	Portable Radio - (136-174, 400-470) MHz with Top Facing Display with 10 year warranty
(O) CLIN 11-14	Portable Radio - (136-174, 400-470) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 11-15	Portable Radio - (136-174, 400-470) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 11-16	Portable Radio - (136-174, 400-470) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 11-17	Portable Radio - (400-470, 700-800) MHz
(O) CLIN 11-18	Portable Radio - (400-470, 700-800) MHz with OTAP
(O) CLIN 11-19	Portable Radio - (400-470, 700-800) MHz with Top Facing Display
(O) CLIN 11-20	Portable Radio - (400-470, 700-800) MHz with Top Facing Display and OTAP
(M) CLIN 11-21	Portable Radio - (400-470, 700-800) MHz with 5 year warranty
(M) CLIN 11-22	Portable Radio - (400-470, 700-800) MHz with 7 year warranty
(M) CLIN 11-23	Portable Radio - (400-470, 700-800) MHz with 10 year warranty
(O) CLIN 11-24	Portable Radio - (400-470, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 11-25	Portable Radio - (400-470, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 11-26	Portable Radio - (400-470, 700-800) MHz with OTAP with 10 year warranty
(O) CLIN 11-27	Portable Radio - (400-470, 700-800) MHz with Top Facing Display with 5 year warranty
(O) CLIN 11-28	Portable Radio - (400-470, 700-800) MHz with Top Facing Display with 7 year warranty
(O) CLIN 11-29	Portable Radio - (400-470, 700-800) MHz with Top Facing Display with 10 year warranty
(O) CLIN 11-30	Portable Radio - (400-470, 700-800) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 11-31	Portable Radio - (400-470, 700-800) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 11-32	Portable Radio - (400-470, 700-800) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 11-33	Portable Radio - (136-174, 700-800) MHz

(O) CLIN 11-34	Portable Radio - (136-174, 700-800) MHz with OTAP
(O) CLIN 11-35	Portable Radio - (136-174, 700-800) MHz with Top Facing Display
(O) CLIN 11-36	Portable Radio - (136-174, 700-800) MHz with Top Facing Display and OTAP
(M) CLIN 11-37	Portable Radio - (136-174, 700-800) MHz with 5 year warranty
(M) CLIN 11-38	Portable Radio - (136-174, 700-800) MHz with 7 year warranty
(M) CLIN 11-39	Portable Radio - (136-174, 700-800) MHz with 10 year warranty
(O) CLIN 11-40	Portable Radio - (136-174, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 11-41	Portable Radio - (136-174, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 11-42	Portable Radio - (136-174, 700-800) MHz with OTAP with 10 year warranty
(O) CLIN 11-43	Portable Radio - (136-174, 700-800) MHz with Top Facing Display with 5 year warranty
(O) CLIN 11-44	Portable Radio - (136-174, 700-800) MHz with Top Facing Display with 7 year warranty
(O) CLIN 11-45	Portable Radio - (136-174, 700-800) MHz with Top Facing Display with 10 year warranty
(O) CLIN 11-46	Portable Radio - (136-174, 700-800) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 11-47	Portable Radio - (136-174, 700-800) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 11-48	Portable Radio - (136-174, 700-800) MHz with Top Facing Display, OTAP and with 10 year warranty

Note:
CLIN 11 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 11 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.2.2   CLIN 12: P25 Dual Band Portable Radio Limited Keypad (Navigation keys only)

Table 12 CLIN 12

Item	CLIN 12 - P25 Dual Band Portable Radio Limited Keypad
(M) CLIN 12-1	Portable Radio - (136-174, 400-470) MHz
(O) CLIN 12-2	Portable Radio - (136-174, 400-470) MHz with OTAP
(O) CLIN 12-3	Portable Radio - (136-174, 400-470) MHz with Top Facing Display
(O) CLIN 12-4	Portable Radio - (136-174, 400-470) MHz with Top Facing Display and OTAP
(M) CLIN 12-5	Portable Radio - (136-174, 400-470) MHz with 5 year warranty
(M) CLIN 12-6	Portable Radio - (136-174, 400-470) MHz with 7 year warranty
(M) CLIN 12-7	Portable Radio - (136-174, 400-470) MHz with 10 year warranty
(O) CLIN 12-8	Portable Radio - (136-174, 400-470) MHz with OTAP with 5 year warranty
(O) CLIN 12-9	Portable Radio - (136-174, 400-470) MHz with OTAP with 7 year warranty
(O) CLIN 12-10	Portable Radio - (136-174, 400-470) MHz with OTAP with 10 year warranty
(O) CLIN 12-11	Portable Radio - (136-174, 400-470) MHz with Top Facing Display with 5 year warranty
(O) CLIN 12-12	Portable Radio - (136-174, 400-470) MHz with Top Facing Display with 7 year warranty
(O) CLIN 12-13	Portable Radio - (136-174, 400-470) MHz with Top Facing Display with 10 year warranty
(O) CLIN 12-14	Portable Radio - (136-174, 400-470) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 12-15	Portable Radio - (136-174, 400-470) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 12-16	Portable Radio - (136-174, 400-470) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 12-17	Portable Radio - (400-470, 700-800) MHz
(O) CLIN 12-18	Portable Radio - (400-470, 700-800) MHz with OTAP
(O) CLIN 12-19	Portable Radio - (400-470, 700-800) MHz with Top Facing Display
(O) CLIN 12-20	Portable Radio - (400-470, 700-800) MHz with Top Facing Display and OTAP
(M) CLIN 12-21	Portable Radio - (400-470, 700-800) MHz with 5 year warranty
(M) CLIN 12-22	Portable Radio - (400-470, 700-800) MHz with 7 year warranty
(M) CLIN 12-23	Portable Radio - (400-470, 700-800) MHz with 10 year warranty

(O) CLIN 12-24	Portable Radio - (400-470, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 12-25	Portable Radio - (400-470, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 12-26	Portable Radio - (400-470, 700-800) MHz with OTAP with 10 year warranty
(O) CLIN 12-27	Portable Radio - (400-470, 700-800) MHz with Top Facing Display with 5 year warranty
(O) CLIN 12-28	Portable Radio - (400-470, 700-800) MHz with Top Facing Display with 7 year warranty
(O) CLIN 12-29	Portable Radio - (400-470, 700-800) MHz with Top Facing Display with 10 year warranty
(O) CLIN 12-30	Portable Radio - (400-470, 700-800) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 12-31	Portable Radio - (400-470, 700-800) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 12-32	Portable Radio - (400-470, 700-800) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 12-33	Portable Radio - (136-174, 700-800) MHz
(O) CLIN 12-34	Portable Radio - (136-174, 700-800MHz with OTAP
(O) CLIN 12-35	Portable Radio - (136-174, 700-800) MHz with Top Facing Display
(O) CLIN 12-36	Portable Radio - (136-174, 700-800) MHz with Top Facing Display and OTAP
(M) CLIN 12-37	Portable Radio - (136-174, 700-800) MHz with 5 year warranty
(M) CLIN 12-38	Portable Radio - (136-174, 700-800) MHz with 7 year warranty
(M) CLIN 12-39	Portable Radio - (136-174, 700-800) MHz with 10 year warranty
(O) CLIN 12-40	Portable Radio - (136-174, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 12-41	Portable Radio - (136-174, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 12-42	Portable Radio - (136-174, 700-800) MHz with OTAP with 10 year warranty
(O) CLIN 12-43	Portable Radio - (136-174, 700-800) MHz with Top Facing Display with 5 year warranty
(O) CLIN 12-44	Portable Radio - (136-174, 700-800) MHz with Top Facing Display with 7 year warranty
(O) CLIN 12-45	Portable Radio - (136-174, 700-800) MHz with Top Facing Display with 10 year warranty

(O) CLIN 12-46	Portable Radio - (136-174, 700-800) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 12-47	Portable Radio - (136-174, 700-800) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 12-48	Portable Radio - (136-174, 700-800) MHz with Top Facing Display, OTAP and with 10 year warranty

Note:
CLIN 12 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 12 must be delivered with the following accessories:

    a. One - Single Battery charger as per **Error! Reference source not found.**;
    b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
    c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
    d. One – Antenna as per section 6.7; and
    e. One - "D" clip as per section 6.12.7

3.2.3   CLIN 13: P25 Dual Band Portable Radio No Keypad

Table 13 CLIN 13

Item	CLIN 13 - P25 Dual Band Portable Radio No Keypad
(M) CLIN 13-1	Portable Radio - (136-174, 400-470) MHz
(O) CLIN 13-2	Portable Radio - (136-174, 400-470) MHz with OTAP
(O) CLIN 13-3	Portable Radio - (136-174, 400-470) MHz with Top Facing Display
(O) CLIN 13-4	Portable Radio - (136-174, 400-470) MHz with Top Facing Display and OTAP
(M) CLIN 13-5	Portable Radio - (136-174, 400-470) MHz with 5 year warranty
(M) CLIN 13-6	Portable Radio - (136-174, 400-470) MHz with 7 year warranty
(M) CLIN 13-7	Portable Radio - (136-174, 400-470) MHz with 10 year warranty
(O) CLIN 13-8	Portable Radio - (136-174, 400-470) MHz with OTAP with 5 year warranty
(O) CLIN 13-9	Portable Radio - (136-174, 400-470) MHz with OTAP with 7 year warranty
(O) CLIN 13-10	Portable Radio - (136-174, 400-470) MHz with OTAP with 10 year warranty
(O) CLIN 13-11	Portable Radio - (136-174, 400-470) MHz with Top Facing Display with 5 year warranty
(O) CLIN 13-12	Portable Radio - (136-174, 400-470) MHz with Top Facing Display with 7 year warranty
(O) CLIN 13-13	Portable Radio - (136-174, 400-470) MHz with Top Facing Display with 10 year warranty

(O) CLIN 13-14	Portable Radio - (136-174, 400-470) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 13-15	Portable Radio - (136-174, 400-470) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 13-16	Portable Radio - (136-174, 400-470) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 13-17	Portable Radio - (400-470, 700-800) MHz
(O) CLIN 13-18	Portable Radio - (400-470, 700-800) MHz with OTAP
(O) CLIN 13-19	Portable Radio - (400-470, 700-800) MHz with Top Facing Display
(O) CLIN 13-20	Portable Radio - (400-470, 700-800) MHz with Top Facing Display and OTAP
(M) CLIN 13-21	Portable Radio - (400-470, 700-800) MHz with 5 year warranty
(M) CLIN 13-22	Portable Radio - (400-470, 700-800) MHz with 7 year warranty
(M) CLIN 13-23	Portable Radio - (400-470, 700-800) MHz with 10 year warranty
(O) CLIN 13-24	Portable Radio - (400-470, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 13-25	Portable Radio - (400-470, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 13-26	Portable Radio - (400-470, 700-800) MHz with OTAP with 10 year warranty
(O) CLIN 13-27	Portable Radio - (400-470, 700-800) MHz with Top Facing Display with 5 year warranty
(O) CLIN 13-28	Portable Radio - (400-470, 700-800) MHz with Top Facing Display with 7 year warranty
(O) CLIN 13-29	Portable Radio - (400-470, 700-800) MHz with Top Facing Display with 10 year warranty
(O) CLIN 13-30	Portable Radio - (400-470, 700-800) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 13-31	Portable Radio - (400-470, 700-800) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 13-32	Portable Radio - (400-470, 700-800) MHz with Top Facing Display, OTAP and with 10 year warranty
(M) CLIN 13-33	Portable Radio - (136-174, 700-800) MHz
(O) CLIN 13-34	Portable Radio - (136-174, 700-800MHz with OTAP
(O) CLIN 13-35	Portable Radio - (136-174, 700-800) MHz with Top Facing Display
(O) CLIN 13-36	Portable Radio - (136-174, 700-800) MHz with Top Facing Display and OTAP
(M) CLIN 13-37	Portable Radio - (136-174, 700-800) MHz with 5 year warranty

(M) CLIN 13-38	Portable Radio - (136-174, 700-800) MHz with 7 year warranty
(M) CLIN 13-39	Portable Radio - (136-174, 700-800) MHz with 10 year warranty
(O) CLIN 13-40	Portable Radio - (136-174, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 13-41	Portable Radio - (136-174, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 13-42	Portable Radio - (136-174, 700-800) MHz with OTAP with 10 year warranty
(O) CLIN 13-43	Portable Radio - (136-174, 700-800) MHz with Top Facing Display with 5 year warranty
(O) CLIN 13-44	Portable Radio - (136-174, 700-800) MHz with Top Facing Display with 7 year warranty
(O) CLIN 13-45	Portable Radio - (136-174, 700-800) MHz with Top Facing Display with 10 year warranty
(O) CLIN 13-46	Portable Radio - (136-174, 700-800) MHz with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 13-47	Portable Radio - (136-174, 700-800) MHz with Top Facing Display, OTAP and with 7 year warranty
(O) CLIN 13-48	Portable Radio - (136-174, 700-800) MHz with Top Facing Display, OTAP and with 10 year warranty

Note:
CLIN 13 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 13 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.2.4   CLIN 14: P25 Dual Band Radios Accessories

Table 14 CLIN 14

Item	CLIN 14 - P25 Dual Band Radios Accessories
(M) CLIN 14-1	Portable radio high capacity Li-ion battery
(M) CLIN 14-2	Portable radio extra high capacity rechargeable battery
(O) CLIN 14-3	Portable radio battery
(M) CLIN 14-4	Portable Radio Key Fill Device

(M) CLIN 14-5	Radio Programming Software and Cable (USB 2.0 or 3.0) for Portable Radios
(M) CLIN 14-6	Portable radio removable, flexible, coated antenna (136-174, 400-470) MHz
(M) CLIN 14-7	Portable radio removable, flexible, coated antenna (400-470, 700-800) MHz
(M) CLIN 14-8	Portable radio removable, flexible, coated antenna (136-174, 700-800) MHz
(M) CLIN 14-9	Portable radio battery charger Single unit
(M) CLIN 14-10	Portable radio battery charger Multi Bay unit
(M) CLIN 14-11	Portable radio battery Vehicle charger
(M) CLIN 14-12	Portable Radio Remote Speaker Microphone
(M) CLIN 14-13	Portable Radio Traffic and motorcycle headset and helmet kits
(M) CLIN 14-14	Portable Radio Speaker/microphone suitable for marine environment
(M) CLIN 14-15	Portable Radio Ear microphone kit
(M) CLIN 14-16	Portable Radio Bluetooth kits
(M) CLIN 14-17	Portable Radio 3-Wire Surveillance accessories with wired ear pieces
(M) CLIN 14-18	Portable Radio Surveillance accessories with induction wireless ear pieces
(M) CLIN 14-19	Portable Radio Skull/bone conducting microphone
(M) CLIN 14-20	Portable Radio leather carrying case with restraining straps
(M) CLIN 14-21	Portable Radio nylon carrying case with restraining straps
(M) CLIN 14-22	Portable Radio "D" swivel clip
(M) CLIN 14-23	Portable Radio Belt clip

3.2.5   CLIN 15: P25 Dual Band Mobile Radio Dash-Mount Configuration

Table 15 CLIN 15

Item	CLIN 15 - P25 Dual Band Mobile Radio Dash-Mount
(M) CLIN 15-1	Mobile Radio - (136-174, 400-470) MHz
(O) CLIN 15-2	Mobile Radio - (136-174, 400-470) MHz with OTAP
(M) CLIN 15-3	Mobile Radio - (136-174, 400-470) MHz with 5 year warranty
(M) CLIN 15-4	Mobile Radio - (136-174, 400-470) MHz with 7 year warranty

(M) CLIN 15-5	Mobile Radio - (136-174, 400-470) MHz with 10 year warranty
(O) CLIN 15-6	Mobile Radio - (136-174, 400-470) MHz with OTAP with 5 year warranty
(O) CLIN 15-7	Mobile Radio - (136-174, 400-470) MHz with OTAP with 7 year warranty
(O) CLIN 15-8	Mobile Radio - (136-174, 400-470) MHz with OTAP with 10 year warranty
(M) CLIN 15-9	Mobile Radio - (400-470, 700-800) MHz
(O) CLIN 15-10	Mobile Radio - (400-470, 700-800) MHz with OTAP
(M) CLIN 15-11	Mobile Radio - (400-470, 700-800) MHz with 5 year warranty
(M) CLIN 15-12	Mobile Radio - (400-470, 700-800) MHz with 7 year warranty
(M) CLIN 15-13	Mobile Radio - (400-470, 700-800) MHz with 10 year warranty
(O) CLIN 15-14	Mobile Radio - (400-470, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 15-15	Mobile Radio - (400-470, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 15-16	Mobile Radio - (400-470, 700-800) MHz with OTAP with 10 year warranty
(M) CLIN 15-17	Mobile Radio - (136-174, 700-800) MHz
(O) CLIN 15-18	Mobile Radio - (136-174, 700-800) MHz with OTAP
(M) CLIN 15-19	Mobile Radio - (136-174, 700-800) MHz with 5 year warranty
(M) CLIN 15-20	Mobile Radio - (136-174, 700-800) MHz with 7 year warranty
(M) CLIN 15-21	Mobile Radio - (136-174, 700-800) MHz with 10 year warranty
(O) CLIN 15-22	Mobile Radio - (136-174, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 15-23	Mobile Radio - (136-174, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 15-24	Mobile Radio - (136-174, 700-800) MHz with OTAP with 10 year warranty

Note:
CLIN 15 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 15 must be delivered with the following accessories:

    a.   One - Mobile Radio front Panel;
    b.   One - Separate Microphone as per section 7.5.3.2;
    c.   One – Separate External Speaker as per section **Error! Reference source not found.**; and
    d.   One – Antenna as per section 7.6;

3.2.6   CLIN 16: P25 Dual Band Mobile Radios Dash-Mount Accessories

Table 16 CLIN 16

Item	CLIN 16 - P25 Dual Band Mobile Radios Dash-Mount Accessories
(M) CLIN 16-1	Mobile Radio Key Fill Device
(M) CLIN 16-2	Radio Programming Software and Cable (USB 2.0 or 3.0) for Mobile Radios
(M) CLIN 16-3	Mobile Radio antenna (136-174) MHz
(M) CLIN 16-4	Mobile Radio antenna (400-470) MHz
(M) CLIN 16-5	Mobile Radio antenna (700-800) MHz
(M) CLIN 16-6	Mobile Radio – External Microphone
(M) CLIN 16-7	Mobile Radio – External Speaker
(M) CLIN 16-8	Mobile Radio – Front Panel
(M) CLIN 16-9	Mobile Radio – Mounting Bracket

3.2.7   CLIN 17: P25 Dual Band Mobile Radio Trunk-Mount Configuration

Table 17 CLIN 17

Item	CLIN 7 - P25 Dual Band Mobile Radio Trunk-Mount
(M) CLIN 17-1	Mobile Radio Single Control Head - (136-174, 400-470) MHz
(M) CLIN 17-2	Mobile Radio Dual Control Head - (136-174, 400-470) MHz
(O) CLIN 17-3	Mobile Radio Single Control Head - (136-174, 400-470) MHz with OTAP
(O) CLIN 17-4	Mobile Radio Dual Control Head - (136-174, 400-470) MHz with OTAP
(M) CLIN 17-5	Mobile Radio Single Control Head - (136-174, 400-470) MHz with 5 year warranty
(M) CLIN 17-6	Mobile Radio Dual Control Head - (136-174, 400-470) MHz with 5 year warranty
(M) CLIN 17-7	Mobile Radio Single Control Head - (136-174, 400-470) MHz with 7 year warranty
(M) CLIN 17-8	Mobile Radio Dual Control Head - (136-174, 400-470) MHz with 7 year warranty
(M) CLIN 17-9	Mobile Radio Single Control Head - (136-174, 400-470) MHz with 10 year warranty

(M) CLIN 17-10	Mobile Radio Dual Control Head - (136-174, 400-470) MHz with 10 year warranty
(O) CLIN 17-11	Mobile Radio Single Control Head - (136-174, 400-470) MHz with OTAP with 5 year warranty
(O) CLIN 17-12	Mobile Radio Dual Control Head - (136-174, 400-470) MHz with OTAP with 5 year warranty
(O) CLIN 17-13	Mobile Radio Single Control Head - (136-174, 400-470) MHz with OTAP with 7 year warranty
(O) CLIN 17-14	Mobile Radio Dual Control Head - (136-174, 400-470) MHz with OTAP with 7 year warranty
(O) CLIN 17-15	Mobile Radio Single Control Head - (136-174, 400-470) MHz with OTAP with 10 year warranty
(O) CLIN 17-16	Mobile Radio Dual Control Head - (136-174, 400-470) MHz with OTAP with 10 year warranty
(M) CLIN 17-17	Mobile Radio Single Control Head - (400-470, 700-800) MHz
(M) CLIN 17-18	Mobile Radio Dual Control Head - (400-470, 700-800) MHz
(O) CLIN 17-19	Mobile Radio Single Control Head - (400-470, 700-800) MHz with OTAP
(O) CLIN 17-20	Mobile Radio Dual Control Head - (400-470, 700-800) MHz with OTAP
(M) CLIN 17-21	Mobile Radio Single Control Head - (400-470, 700-800) MHz with 5 year warranty
(M) CLIN 17-22	Mobile Radio Dual Control Head - (400-470, 700-800) MHz with 5 year warranty
(M) CLIN 17-23	Mobile Radio Single Control Head - (400-470, 700-800) MHz with 7 year warranty
(M) CLIN 17-24	Mobile Radio Dual Control Head - (400-470, 700-800) MHz with 7 year warranty
(M) CLIN 17-25	Mobile Radio Single Control Head - (400-470, 700-800) MHz with 10 year warranty
(M) CLIN 17-26	Mobile Radio Dual Control Head - (400-470, 700-800) MHz with 10 year warranty
(O) CLIN 17-27	Mobile Radio Single Control Head - (400-470, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 17-28	Mobile Radio Dual Control Head - (400-470, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 17-29	Mobile Radio Single Control Head - (400-470, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 17-30	Mobile Radio Dual Control Head - (400-470, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 17-31	Mobile Radio Single Control Head - (400-470, 700-800) MHz with OTAP with 10 year warranty
(O) CLIN 17-32	Mobile Radio Dual Control Head - (400-470, 700-800) MHz with OTAP with 10 year warranty
(M) CLIN 17-33	Mobile Radio Single Control Head - (136-174, 700-800) MHz

(M) CLIN 17-34	Mobile Radio Dual Control Head - (136-174, 700-800) MHz
(O) CLIN 17-35	Mobile Radio Single Control Head - (136-174, 700-800) MHz with OTAP
(O) CLIN 17-36	Mobile Radio Dual Control Head - (136-174, 700-800) MHz with OTAP
(M) CLIN 17-37	Mobile Radio Single Control Head - (136-174, 700-800) MHz with 5 year warranty
(M) CLIN 17-38	Mobile Radio Dual Control Head - (136-174, 700-800) MHz with 5 year warranty
(M) CLIN 17-39	Mobile Radio Single Control Head - (136-174, 700-800) MHz with 7 year warranty
(M) CLIN 17-40	Mobile Radio Dual Control Head - (136-174, 700-800) MHz with 7 year warranty
(M) CLIN 17-41	Mobile Radio Single Control Head - (136-174, 700-800) MHz with 10 year warranty
(M) CLIN 17-42	Mobile Radio Dual Control Head - (136-174, 700-800) MHz with 10 year warranty
(O) CLIN 17-43	Mobile Radio Single Control Head - (136-174, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 17-44	Mobile Radio Dual Control Head - (136-174, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 17-45	Mobile Radio Single Control Head - (136-174, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 17-46	Mobile Radio Dual Control Head - (136-174, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 17-47	Mobile Radio Single Control Head - (136-174, 700-800) MHz with OTAP with 10 year warranty
(O) CLIN 17-48	Mobile Radio Dual Control Head - (136-174, 700-800) MHz with OTAP with 10 year warranty

Note:
CLIN 17 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 17 must be delivered with the following accessories:

     a. One - Control Head;
     b. One - Control Head Cable (5m or more) with locking connectors;
     c. One - Separate Microphone as per section 7.5.3.2;
     d. One - Flat mount installation bracket;
     e. One - Separate External Speaker as per section **Error! Reference source not found.**; and
     f. One - Antenna as per section 7.6;

3.2.8   CLIN 18: P25 Dual Band Mobile Radios Trunk-Mount Accessories

Table 18 CLIN 18

Item	CLIN 18 - P25 Dual Band Mobile Radios Trunk-Mount Accessories
(M) CLIN 18-1	Mobile Radio Key Fill Device
(M) CLIN 18-2	Radio Programming Software and Cable (USB 2.0 or 3.0) for Mobile Radios
(M) CLIN 18-3	Mobile Radio antenna (136-174) MHz
(M) CLIN 18-4	Mobile Radio antenna (400-470) MHz
(M) CLIN 18-5	Mobile Radio antenna (700-800) MHz
(M) CLIN 18-6	Mobile Radio – External Microphone
(M) CLIN 18-7	Mobile Radio – External Speaker
(M) CLIN 18-8	Mobile Radio – Control Head single radio control
(O) CLIN 18-9	Mobile Radio - Control Head multi radio control
(M) CLIN 18-10	Mobile Radio - Control Head Installation cables (5 meters or longer)
(M) CLIN 18-11	Mobile Radio – Flat Mount Installation Bracket

3.2.9   CLIN 19: P25 Dual Band Mobile Radio Covert Configuration

Table 19 CLIN 19

Item	CLIN 19 - P25 Dual Band Mobile Radio Covert
(M) CLIN 19-1	Mobile Radio - (136-174, 400-470) MHz
(O) CLIN 19-2	Mobile Radio - (136-174, 400-470) MHz with OTAP
(M) CLIN 19-3	Mobile Radio - (136-174, 400-470) MHz with 5 year warranty
(M) CLIN 19-4	Mobile Radio - (136-174, 400-470) MHz with 7 year warranty
(M) CLIN 19-5	Mobile Radio - (136-174, 400-470) MHz with 10 year warranty
(O) CLIN 19-6	Mobile Radio - (136-174, 400-470) MHz with OTAP with 5 year warranty
(O) CLIN 19-7	Mobile Radio - (136-174, 400-470) MHz with OTAP with 7 year warranty
(O) CLIN 19-8	Mobile Radio - (136-174, 400-470) MHz with OTAP with 10 year warranty

(M) CLIN 19-9	Mobile Radio - (400-470, 700-800) MHz
(O) CLIN 19-10	Mobile Radio - (400-470, 700-800) MHz with OTAP
(M) CLIN 19-11	Mobile Radio - (400-470, 700-800) MHz with 5 year warranty
(M) CLIN 19-12	Mobile Radio - (400-470, 700-800) MHz with 7 year warranty
(M) CLIN 19-13	Mobile Radio - (400-470, 700-800) MHz with 10 year warranty
(O) CLIN 19-14	Mobile Radio - (400-470, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 19-15	Mobile Radio - (400-470, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 19-16	Mobile Radio - (400-470, 700-800) MHz with OTAP with 10 year warranty
(M) CLIN 19-17	Mobile Radio - (136-174, 700-800) MHz
(O) CLIN 19-18	Mobile Radio - (136-174, 700-800) MHz with OTAP
(M) CLIN 19-19	Mobile Radio - (136-174, 700-800) MHz with 5 year warranty
(M) CLIN 19-20	Mobile Radio - (136-174, 700-800) MHz with 7 year warranty
(M) CLIN 19-21	Mobile Radio - (136-174, 700-800) MHz with 10 year warranty
(O) CLIN 19-22	Mobile Radio - (136-174, 700-800) MHz with OTAP with 5 year warranty
(O) CLIN 19-23	Mobile Radio - (136-174, 700-800) MHz with OTAP with 7 year warranty
(O) CLIN 19-24	Mobile Radio - (136-174, 700-800) MHz with OTAP with 10 year warranty

Note:
CLIN 19 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 19 must be delivered with the following accessories:

    a.   One – Handheld Control Head with integrated microphone;
    b.   One - Control Head Cable (5m or more) with locking connectors;
    c.   One - Separate External Speaker; and
    d.   One - Antenna as per section 7.6;

3.2.10   CLIN 20: P25 Dual Band Mobile Radios Covert Accessories

Table 20 CLIN 20

Item	CLIN 20 - P25 Dual Band Mobile Radios Covert Accessories
(M) CLIN 20-1	Mobile Radio Key Fill Device
(M) CLIN 20-2	Radio Programming Software and Cable (USB 2.0 or 3.0) for Mobile Radios

(O) CLIN 20-3	Mobile Radio Low profile antenna (136-174, 400-470) MHz
(O) CLIN 20-4	Mobile Radio Low profile antenna (400-470, 700-800) MHz
(O) CLIN 20-5	Mobile Radio Low profile antenna (136-174, 700-800) MHz
(M) CLIN 20-6	Mobile Radio – Handheld Control Head with integrated microphone
(M) CLIN 20-7	Mobile Radio – External Speaker
(M) CLIN 20-8	Mobile Radio – Handheld Control Head Installation cables (5 meters or longer)

3.3   P25 Multi Band Radio

3.3.1   CLIN 21: P25 Multi Band Portable Radio Full Keypad

Table 21 CLIN 21

Item	CLIN 21 - P25 Multi Band Portable Radio Full Keypad
(M) CLIN 21-1	Portable Radio
(O) CLIN 21-2	Portable Radio with OTAP
(O) CLIN 21-3	Portable Radio with Top Facing Display
(O) CLIN 21-4	Portable Radio with Top Facing Display and OTAP
(M) CLIN 21-5	Portable Radio with 5 year warranty
(M) CLIN 21-6	Portable Radio with 7 year warranty
(M) CLIN 21-7	Portable Radio with 10 year warranty
(O) CLIN 21-8	Portable Radio with OTAP with 5 year warranty
(O) CLIN 21-9	Portable Radio with OTAP with 7 year warranty
(O) CLIN 21-10	Portable Radio with OTAP with 10 year warranty
(O) CLIN 21-11	Portable Radio with Top Facing Display with 5 year warranty
(O) CLIN 21-12	Portable Radio with Top Facing Display with 7 year warranty
(O) CLIN 21-13	Portable Radio with Top Facing Display with 10 year warranty
(O) CLIN 21-14	Portable Radio with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 21-15	Portable Radio with Top Facing Display, OTAP and with 7 year warranty

(O) CLIN 21-16	Portable with Top Facing Display, OTAP and with 10 year warranty

Note:
CLIN 21 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 21 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.3.2   CLIN 22: P25 Multi Band Portable Radio Limited Keypad (Navigation keys only)

Table 22 CLIN 22

Item	CLIN 22 - P25 Multi Band Portable Radio Limited Keypad
(M) CLIN 22-1	Portable Radio
(O) CLIN 22-2	Portable Radio with OTAP
(O) CLIN 22-3	Portable Radio with Top Facing Display
(O) CLIN 22-4	Portable Radio with Top Facing Display and OTAP
(M) CLIN 22-5	Portable Radio with 5 year warranty
(M) CLIN 22-6	Portable Radio with 7 year warranty
(M) CLIN 22-7	Portable Radio with 10 year warranty
(O) CLIN 22-8	Portable Radio with OTAP with 5 year warranty
(O) CLIN 22-9	Portable Radio with OTAP with 7 year warranty
(O) CLIN 22-10	Portable Radio with OTAP with 10 year warranty
(O) CLIN 22-11	Portable Radio with Top Facing Display with 5 year warranty
(O) CLIN 22-12	Portable Radio with Top Facing Display with 7 year warranty
(O) CLIN 22-13	Portable Radio with Top Facing Display with 10 year warranty
(O) CLIN 22-14	Portable Radio with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 22-15	Portable Radio with Top Facing Display, OTAP and with 7 year warranty

(O) CLIN 22-16	Portable Radio with Top Facing Display, OTAP and with 10 year warranty

Note:
CLIN 22 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 22 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.3.3 CLIN 23: P25 Multi Band Portable Radio No Keypad

Table 23 CLIN 23

Item	CLIN 23 - P25 Multi Band Portable Radio No Keypad
(M) CLIN 23-1	Portable Radio
(O) CLIN 23-2	Portable Radio with OTAP
(O) CLIN 23-3	Portable Radio with Top Facing Display
(O) CLIN 23-4	Portable Radio with Top Facing Display and OTAP
(M) CLIN 23-5	Portable Radio with 5 year warranty
(M) CLIN 23-6	Portable Radio with 7 year warranty
(M) CLIN 23-7	Portable Radio with 10 year warranty
(O) CLIN 23-8	Portable Radio with OTAP with 5 year warranty
(O) CLIN 23-9	Portable Radio with OTAP with 7 year warranty
(O) CLIN 23-10	Portable Radio with OTAP with 10 year warranty
(O) CLIN 23-11	Portable Radio with Top Facing Display with 5 year warranty
(O) CLIN 23-12	Portable Radio with Top Facing Display with 7 year warranty
(O) CLIN 23-13	Portable Radio with Top Facing Display with 10 year warranty
(O) CLIN 23-14	Portable Radio with Top Facing Display , OTAP and with 5 year warranty
(O) CLIN 23-15	Portable Radio with Top Facing Display, OTAP and with 7 year warranty

(O) CLIN 23-16	Portable Radio with Top Facing Display, OTAP and with 10 year warranty

Note:
CLIN 23 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 23 must be delivered with the following accessories:

    a. One - Single Battery charger as per **Error! Reference source not found.**;
    b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
    c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
    d. One – Antenna as per section 6.7; and
    e. One - "D" clip as per section 6.12.7

3.3.4 CLIN 24: P25 Multi Band Radios Accessories

Table 24 CLIN 24

Item	CLIN 24 - P25 Multi Band Radios Accessories
(M) CLIN 24-1	Portable radio high capacity Li-ion battery
(M) CLIN 24-2	Portable radio extra high capacity rechargeable battery
(O) CLIN 24-3	Portable radio battery
(M) CLIN 24-4	Portable Radio Key Fill Device
(M) CLIN 24-5	Radio Programming Software and Cable (USB 2.0 or 3.0) for Portable Radios
(M) CLIN 24-6	Portable radio removable, flexible, coated antenna
(M) CLIN 24-7	Portable radio battery charger Single unit
(M) CLIN 24-8	Portable radio battery charger Multi Bay unit
(M) CLIN 24-9	Portable radio battery Vehicle charger
(M) CLIN 24-10	Portable Radio Remote Speaker Microphone
(M) CLIN 24-11	Portable Radio Traffic and motorcycle headset and helmet kits
(M) CLIN 24-12	Portable Radio Speaker/microphone suitable for marine environment
(M) CLIN 24-13	Portable Radio Ear microphone kit
(M) CLIN 24-14	Portable Radio Bluetooth kits
(M) CLIN 24-15	Portable Radio 3-Wire Surveillance accessories with wired ear pieces
(M) CLIN 24-16	Portable Radio Surveillance accessories with induction wireless ear pieces

(M) CLIN 24-17	Portable Radio Skull/bone conducting microphone
(M) CLIN 24-18	Portable Radio leather carrying case with restraining straps
(M) CLIN 24-19	Portable Radio nylon carrying case with restraining straps
(M) CLIN 24-20	Portable Radio "D" swivel clip
(M) CLIN 24-21	Portable Radio Belt clip

3.3.5   CLIN 25: P25 Multi Band Mobile Radio Dash-Mount Configuration

Table 25 CLIN 25

Item	CLIN 25 - P25 Multi Band Mobile Radio Dash-Mount
(M) CLIN 25-1	Mobile Radio
(O) CLIN 25-2	Mobile Radio with OTAP
(M) CLIN 25-3	Mobile Radio with 5 year warranty
(M) CLIN 25-4	Mobile Radio with 7 year warranty
(M) CLIN 25-5	Mobile Radio with 10 year warranty
(O) CLIN 25-6	Mobile Radio with OTAP with 5 year warranty
(O) CLIN 25-7	Mobile Radio with OTAP with 7 year warranty
(O) CLIN 25-8	Mobile Radio with OTAP with 10 year warranty

Note:
CLIN 25 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 25 must be delivered with the following accessories:

   a. One - Mobile Radio front Panel;
   b. One - Separate Microphone as per section 7.5.3.2;
   c. One – Separate External Speaker as per section **Error! Reference source not found.**; and
   d. One – Antenna as per section 7.6;

3.3.6   CLIN 26: P25 Multi Band Mobile Radios Dash-Mount Accessories

Table 26 CLIN 26

Item	CLIN 26 - P25 Multi Band Mobile Radios Dash-Mount Accessories
(M) CLIN 26-1	Mobile Radio Key Fill Device
(M) CLIN 26-2	Radio Programming Software and Cable (USB 2.0 or 3.0) for Mobile Radios
(M) CLIN 26-3	Mobile Radio antenna
(M) CLIN 26-4	Mobile Radio – External Microphone
(M) CLIN 26-5	Mobile Radio – External Speaker
(M) CLIN 26-6	Mobile Radio – Front Panel
(M) CLIN 26-7	Mobile Radio – Mounting Bracket

3.3.7   CLIN 27: P25 Multi Band Mobile Radio Trunk-Mount Configuration

Table 27 CLIN 27

Item	CLIN 27 - P25 Multi Band Mobile Radio Trunk-Mount
(M) CLIN 27-1	Mobile Radio Single Control Head
(M) CLIN 27-2	Mobile Radio Dual Control Head
(O) CLIN 27-3	Mobile Radio Single Control Head with OTAP
(O) CLIN 27-4	Mobile Radio Dual Control Head with OTAP
(M) CLIN 27-5	Mobile Radio Single Control Head with 5 year warranty
(M) CLIN 27-6	Mobile Radio Dual Control Head with 5 year warranty
(M) CLIN 27-7	Mobile Radio Single Control Head with 7 year warranty
(M) CLIN 27-8	Mobile Radio Dual Control Head with 7 year warranty
(M) CLIN 27-9	Mobile Radio Single Control Head with 10 year warranty
(M) CLIN 27-10	Mobile Radio Dual Control Head with 10 year warranty
(O) CLIN 27-11	Mobile Radio Single Control Head with OTAP with 5 year warranty
(O) CLIN 27-12	Mobile Radio Dual Control Head with OTAP with 5 year warranty

(O) CLIN 27-13	Mobile Radio Single Control with OTAP with 7 year warranty
(O) CLIN 27-14	Mobile Radio Dual Control with OTAP with 7 year warranty
(O) CLIN 27-15	Mobile Radio Single Control Head with OTAP with 10 year warranty
(O) CLIN 27-16	Mobile Radio Dual Control Head with OTAP with 10 year warranty

Note:
CLIN 27 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 27 must be delivered with the following accessories:

    a. One - Control Head;
    b. One - Control Head Cable (5m or more) with locking connectors;
    c. One - Separate Microphone as per section 7.5.3.2;
    d. One - Flat mount installation bracket;
    e. One - Separate External Speaker as per section **Error! Reference source not found.**; and
    f. One - Antenna as per section 7.6;

3.3.8   CLIN 28: P25 Multi Band Mobile Radios Trunk-Mount Accessories

Table 28 CLIN 28

Item	CLIN 28 - P25 Multi Band Mobile Radios Trunk-Mount Accessories
(M) CLIN 28-1	Mobile Radio Key Fill Device
(M) CLIN 28-2	Radio Programming Software and Cable (USB 2.0 or 3.0) for Mobile Radios
(M) CLIN 28-3	Mobile Radio antenna
(M) CLIN 28-4	Mobile Radio – External Microphone
(M) CLIN 28-5	Mobile Radio – External Speaker
(M) CLIN 28-6	Mobile Radio – Control Head single radio control
(O) CLIN 28-7	Mobile Radio - Control Head multi radio control
(M) CLIN 28-8	Mobile Radio - Control Head Installation cables (5 meters or longer)
(M) CLIN 28-9	Mobile Radio – Flat Mount Installation Bracket

3.3.9   CLIN 29: P25 Multi Band Mobile Radio Covert Configuration

Table 29 CLIN 29

Item	CLIN 29 - P25 Multi Band Mobile Radio Covert
(M) CLIN 29-1	Mobile Radio
(O) CLIN 29-2	Mobile Radio with OTAP
(M) CLIN 29-3	Mobile Radio with 5 year warranty
(M) CLIN 29-4	Mobile Radio with 7 year warranty
(M) CLIN 29-5	Mobile Radio with 10 year warranty
(O) CLIN 29-6	Mobile Radio with OTAP with 5 year warranty
(O) CLIN 29-7	Mobile Radio with OTAP with 7 year warranty
(O) CLIN 29-8	Mobile Radio with OTAP with 10 year warranty

Note:
CLIN 29 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 29 must be delivered with the following accessories:

   a. One - Handheld Control Head with integrated microphone;
   b. One - Control Head Cable (5m or more) with locking connectors;
   c. One - Separate External Speaker; and
   d. One - Antenna as per section 7.6;

3.3.10   CLIN 30: P25 Multi Band Mobile Radios Covert Accessories

Table 30 CLIN 30

Item	CLIN 30 - P25 Multi Band Mobile Radios Covert Accessories
(M) CLIN 30-1	Mobile Radio Key Fill Device
(M) CLIN 30-2	Radio Programming Software and Cable (USB 2.0 or 3.0) for Mobile Radios
(O) CLIN 30-3	Mobile Radio Low profile antenna
(M) CLIN 30-4	Mobile Radio – Handheld Control Head with integrated microphone
(M) CLIN 30-5	Mobile Radio – External Speaker
(M) CLIN 30-6	Mobile Radio – Handheld Control Head Installation cables (5 meters or longer)

3.4   P25 Digital Vehicular Repeater System (DVRS)

3.4.1   CLIN 31: P25 Digital Vehicular Repeater (DVR)

Table 31 CLIN 31

Item	CLIN 31 - P25 Digital Vehicular Repeater (DVR)
(M) CLIN 31-1	Digital Vehicle Repeater - (136-174) MHz
(M) CLIN 31-2	Digital Vehicle Repeater - (400-470) MHz
(M) CLIN 31-3	Digital Vehicle Repeater - (700-800) MHz
(O) CLIN 31-4	DVR with Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 31-5	DVR with Automatic Registration/De-Registration support - (400-470) MHz
(O) CLIN 31-6	DVR with Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 13-7	DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 31-8	DVR with Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 31-9	DVR with Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 31-10	DVR with P25 OTAR support - (136-174) MHz
(O) CLIN 31-11	DVR with P25 OTAR support - (400-470) MHz
(O) CLIN 31-12	DVR with P25 OTAR support - (700-800) MHz
(O) CLIN 31-13	DVR with Standalone mode notification support - (136-174) MHz
(O) CLIN 31-14	DVR with Standalone mode notification support - (400-470) MHz
(O) CLIN 31-15	DVR with Standalone mode notification support - (700-800) MHz
(O) CLIN 31-16	DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 31-17	DVR with Standalone mode notification and Automatic Registration/De-Registration support - (400-470) MHz
(O) CLIN 31-18	DVR with Standalone mode notification and Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 31-19	DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 31-20	DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 31-21	DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz

(O) CLIN 31-22	DVR with Standalone mode notification and P25 OTAR support - (136-174) MHz
(O) CLIN 31-23	DVR with Standalone mode notification and P25 OTAR support - (400-470) MHz
(O) CLIN 31-24	DVR with Standalone mode notification and P25 OTAR support - (700-800) MHz
(O) CLIN 31-25	DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 31-26	DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 31-27	DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 31-28	DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174) MHz
(O) CLIN 31-29	DVR with Automatic Registration/De-Registration and P25 OTAR support - (400-470) MHz
(O) CLIN 31-30	DVR with Automatic Registration/De-Registration and P25 OTAR support - (700-800) MHz
(O) CLIN 31-31	DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 31-32	DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 31-33	DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 31-34	DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 31-35	DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 31-36	DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 31-37	DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174) MHz
(O) CLIN 31-38	DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (400-470) MHz
(O) CLIN 31-39	DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (700-800) MHz
(O) CLIN 31-40	DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 31-41	DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 31-42	DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 31-43	DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz

(O) CLIN 31-44	DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 31-45	DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 31-46	DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 31-47	DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 31-48	DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz

3.4.2   CLIN 32: P25 DVR Accessories

Table 32 CLIN 32

Item	CLIN 32 - P25 DVR Accessories
(M) CLIN 32-1	DVR Programming Software and Cable
(M) CLIN 32-2	DVR – Installation cables
(O) CLIN 32-3	DVR – Mounting Bracket top-bottom
(O) CLIN 32-4	DVR – Mounting Bracket side-by-side

3.4.3   CLIN 33: P25 DVRS Filtration

Table 33 CLIN 33

Item	CLIN 33 - P25 DVRS Filtration
(M) CLIN 33-1	DVRS Filtration In-Band - (136-174) MHz
(M) CLIN 33-2	DVRS Filtration Cross-Band - (136-174) MHz
(M) CLIN 33-3	DVRS Filtration In-Band - (400-470) MHz
(M) CLIN 33-4	DVRS Filtration Cross-Band - (400-470) MHz
(M) CLIN 33-5	DVRS Filtration In-Band - (700-800) MHz

(M) CLIN 33-6	DVRS Filtration Cross-Band - (700-800) MHz

3.4.4   CLIN 34: P25 DVR Single Band Portable Radio Full Keypad

Table 34 CLIN 34

Item	CLIN 34 - P25 DVR Single Band Portable Radio Full Keypad
(M) CLIN 34-1	DVRS Portable Radio (136-174) MHz compatible with DVR
(M) CLIN 34-2	DVRS Portable Radio (400-470) MHz compatible with DVR
(M) CLIN 34-3	DVRS Portable Radio (700-800) MHz compatible with DVR
(O) CLIN 34-4	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 34-5	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (400-470) MHz
(O) CLIN 34-6	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 34-7	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 34-8	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 34-9	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 34-10	DVRS Portable Radio compatible with DVR with P25 OTAR support - (136-174) MHz
(O) CLIN 34-11	DVRS Portable Radio compatible with DVR with P25 OTAR support - (400-470) MHz
(O) CLIN 34-12	DVRS Portable Radio compatible with DVR with P25 OTAR support - (700-800) MHz
(O) CLIN 34-13	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (136-174) MHz
(O) CLIN 34-14	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (400-470) MHz
(O) CLIN 34-15	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (700-800) MHz
(O) CLIN 34-16	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 34-17	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (400-470) MHz
(O) CLIN 34-18	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 34-19	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz

(O) CLIN 34-20	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 34-21	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 34-22	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174) MHz
(O) CLIN 34-23	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (400-470) MHz
(O) CLIN 34-24	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (700-800) MHz
(O) CLIN 34-25	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 34-26	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 34-27	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 34-28	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174) MHz
(O) CLIN 34-29	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (400-470) MHz
(O) CLIN 34-30	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (700-800) MHz
(O) CLIN 34-31	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 34-32	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 34-33	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 34-34	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 34-35	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 34-36	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 34-37	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174) MHz
(O) CLIN 34-38	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (400-470) MHz
(O) CLIN 34-39	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (700-800) MHz

(O) CLIN 34-40	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 34-41	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 34-42	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 34-43	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 34-44	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 34-45	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 34-46	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 34-47	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 34-48	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz

Note:
CLIN 34 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 34 must be delivered with the following accessories:

 a. One - Single Battery charger as per **Error! Reference source not found.**;
 b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
 c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
 d. One – Antenna as per section 6.7; and
 e. One - "D" clip as per section 6.12.7

3.4.5   CLIN 35: P25 DVR Single Band Portable Radio Limited Keypad (Navigation keys only)

Table 35 CLIN 35

Item	CLIN 35 - P25 DVR Single Band Portable Radio Limited Keypad
(M) CLIN 35-1	DVRS Portable Radio (136-174) MHz compatible with DVR
(M) CLIN 35-2	DVRS Portable Radio (400-470) MHz compatible with DVR

(M) CLIN 35-3	DVRS Portable Radio (700-800) MHz compatible with DVR
(O) CLIN 35-4	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 35-5	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (400-470) MHz
(O) CLIN 35-6	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 35-7	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 35-8	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 35-9	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 35-10	DVRS Portable Radio compatible with DVR with P25 OTAR support - (136-174) MHz
(O) CLIN 35-11	DVRS Portable Radio compatible with DVR with P25 OTAR support - (400-470) MHz
(O) CLIN 35-12	DVRS Portable Radio compatible with DVR with P25 OTAR support - (700-800) MHz
(O) CLIN 35-13	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (136-174) MHz
(O) CLIN 35-14	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (400-470) MHz
(O) CLIN 35-15	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (700-800) MHz
(O) CLIN 35-16	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 35-17	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (400-470) MHz
(O) CLIN 35-18	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 35-19	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 35-20	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 35-21	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 35-22	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174) MHz
(O) CLIN 35-23	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (400-470) MHz
(O) CLIN 35-24	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (700-800) MHz
(O) CLIN 35-25	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 35-26	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz

(O) CLIN 35-27	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 35-28	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174) MHz
(O) CLIN 35-29	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (400-470) MHz
(O) CLIN 35-30	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (700-800) MHz
(O) CLIN 35-31	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 35-32	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 35-33	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 35-34	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 35-35	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 35-36	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 35-37	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174) MHz
(O) CLIN 35-38	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (400-470) MHz
(O) CLIN 35-39	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (700-800) MHz
(O) CLIN 35-40	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 35-41	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 35-42	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 35-43	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 35-44	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 35-45	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz

(O) CLIN 35-46	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 35-47	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 35-48	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz

Note:
CLIN 35 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 35 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.4.6   CLIN 36: P25 DVR Single Band Portable Radio No Keypad

Table 36 CLIN 36

Item	CLIN 36 - P25 DVR Single Band Portable Radio No Keypad
(M) CLIN 36-1	DVRS Portable Radio (136-174) MHz compatible with DVR
(M) CLIN 36-2	DVRS Portable Radio (400-470) MHz compatible with DVR
(M) CLIN 36-3	DVRS Portable Radio (700-800) MHz compatible with DVR
(O) CLIN 36-4	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 36-5	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (400-470) MHz
(O) CLIN 36-6	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 36-7	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 36-8	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 36-9	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 36-10	DVRS Portable Radio compatible with DVR with P25 OTAR support - (136-174) MHz

(O) CLIN 36-11	DVRS Portable Radio compatible with DVR with P25 OTAR support - (400-470) MHz
(O) CLIN 36-12	DVRS Portable Radio compatible with DVR with P25 OTAR support - (700-800) MHz
(O) CLIN 36-13	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (136-174) MHz
(O) CLIN 36-14	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (400-470) MHz
(O) CLIN 36-15	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (700-800) MHz
(O) CLIN 36-16	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 36-17	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (400-470) MHz
(O) CLIN 36-18	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 36-19	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 36-20	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 36-21	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 36-22	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174) MHz
(O) CLIN 36-23	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (400-470) MHz
(O) CLIN 36-24	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (700-800) MHz
(O) CLIN 36-25	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 36-26	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 36-27	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 36-28	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174) MHz
(O) CLIN 36-29	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (400-470) MHz
(O) CLIN 36-30	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (700-800) MHz
(O) CLIN 36-31	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 36-32	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 36-33	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz

(O) CLIN 36-34	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 36-35	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 36-36	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 36-37	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174) MHz
(O) CLIN 36-38	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (400-470) MHz
(O) CLIN 36-39	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (700-800) MHz
(O) CLIN 36-40	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 36-41	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 36-42	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 36-43	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 36-44	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 36-45	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 36-46	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 36-47	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 36-48	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz

Note:
CLIN 36 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 36 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.4.7   CLIN 37: P25 DVR Dual Band Portable Radio Full Keypad

Table 37 CLIN 37

Item	CLIN 37 - P25 DVR Dual Band Portable Radio Full Keypad
(M) CLIN 37-1	DVRS Portable Radio (136-174, 400-470) MHz compatible with DVR
(M) CLIN 37-2	DVRS Portable Radio (400-470, 700-800) MHz compatible with DVR
(M) CLIN 37-3	DVRS Portable Radio (136-174, 700-800) MHz compatible with DVR
(O) CLIN 37-4	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support – (136-174, 400-470) MHz
(O) CLIN 37-5	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (400-470, 700-800) MHz
(O) CLIN 37-6	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (136-174, 700-800) MHz
(O) CLIN 37-7	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support – (136-174, 400-470) MHz
(O) CLIN 37-8	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 37-9	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 37-10	DVRS Portable Radio compatible with DVR with P25 OTAR support – (136-174, 400-470) MHz
(O) CLIN 37-11	DVRS Portable Radio compatible with DVR with P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 37-12	DVRS Portable Radio compatible with DVR with P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 37-13	DVRS Portable Radio compatible with DVR with Standalone mode notification support – (136-174, 400-470) MHz
(O) CLIN 37-14	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (400-470, 700-800) MHz
(O) CLIN 37-15	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (136-174, 700-800) MHz
(O) CLIN 37-16	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support – (136-174, 400-470) MHz
(O) CLIN 37-17	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (400-470, 700-800) MHz
(O) CLIN 37-18	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174, 700-800) MHz
(O) CLIN 37-19	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 37-20	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800)

	MHz
(O) CLIN 37-21	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 37-22	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174, 400-470) MHz
(O) CLIN 37-23	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 37-24	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 37-25	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 37-26	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 37-27	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 37-28	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174, 400-470) MHz
(O) CLIN 37-29	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 37-30	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 37-31	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 37-32	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 37-33	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 37-34	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 37-35	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 37-36	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 37-37	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174, 400-470) MHz
(O) CLIN 37-38	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (400-470, 700-800) MHz
(O) CLIN 37-39	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174, 700-800) MHz

(O) CLIN 37-40	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 37-41	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 37-42	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 37-43	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 37-44	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 37-45	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 37-46	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 37-47	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 37-48	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz

Note:
CLIN 37 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 37 must be delivered with the following accessories:

    a. One - Single Battery charger as per **Error! Reference source not found.**;
    b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
    c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
    d. One – Antenna as per section 6.7; and
    e. One - "D" clip as per section 6.12.7

3.4.8   CLIN 38: P25 DVR Dual Band Portable Radio Limited Keypad (Navigation keys only)

Table 38 CLIN 38

Item	CLIN 38 - P25 DVR Dual Band Portable Radio Limited Keypad
(M) CLIN 38-1	DVRS Portable Radio (136-174, 400-470) MHz compatible with DVR

(M) CLIN 38-2	DVRS Portable Radio (400-470, 700-800) MHz compatible with DVR
(M) CLIN 38-3	DVRS Portable Radio (136-174, 700-800) MHz compatible with DVR
(O) CLIN 38-4	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support – (136-174, 400-470) MHz
(O) CLIN 38-5	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (400-470, 700-800) MHz
(O) CLIN 38-6	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (136-174, 700-800) MHz
(O) CLIN 38-7	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support – (136-174, 400-470) MHz
(O) CLIN 38-8	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 38-9	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 38-10	DVRS Portable Radio compatible with DVR with P25 OTAR support – (136-174, 400-470) MHz
(O) CLIN 38-11	DVRS Portable Radio compatible with DVR with P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 38-12	DVRS Portable Radio compatible with DVR with P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 38-13	DVRS Portable Radio compatible with DVR with Standalone mode notification support – (136-174, 400-470) MHz
(O) CLIN 38-14	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (400-470, 700-800) MHz
(O) CLIN 38-15	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (136-174, 700-800) MHz
(O) CLIN 38-16	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support – (136-174, 400-470) MHz
(O) CLIN 38-17	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (400-470, 700-800) MHz
(O) CLIN 38-18	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174, 700-800) MHz
(O) CLIN 38-19	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 38-20	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 38-21	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 38-22	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174, 400-470) MHz
(O) CLIN 38-23	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 38-24	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 38-25	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz

(O) CLIN 38-26	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 38-27	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 38-28	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174, 400-470) MHz
(O) CLIN 38-29	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 38-30	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 38-31	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 38-32	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 38-33	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 38-34	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 38-35	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 38-36	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 38-37	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174, 400-470) MHz
(O) CLIN 38-38	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (400-470, 700-800) MHz
(O) CLIN 38-39	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174, 700-800) MHz
(O) CLIN 38-40	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 38-41	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 38-42	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 38-43	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 38-44	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz

(O) CLIN 38-45	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 38-46	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 38-47	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 38-48	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz

Note:
CLIN 38 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 38 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.4.9   CLIN 39: P25 DVR Dual Band Portable Radio No Keypad

Table 39 CLIN 39

Item	CLIN 39 - P25 DVR Dual Band Portable Radio No Keypad
(M) CLIN 39-1	DVRS Portable Radio (136-174, 400-470) MHz compatible with DVR
(M) CLIN 39-2	DVRS Portable Radio (400-470, 700-800) MHz compatible with DVR
(M) CLIN 39-3	DVRS Portable Radio (136-174, 700-800) MHz compatible with DVR
(O) CLIN 39-4	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support – (136-174, 400-470) MHz
(O) CLIN 39-5	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (400-470, 700-800) MHz
(O) CLIN 39-6	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support - (136-174, 700-800) MHz
(O) CLIN 39-7	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support – (136-174, 400-470) MHz
(O) CLIN 39-8	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 39-9	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz

(O) CLIN 39-10	DVRS Portable Radio compatible with DVR with P25 OTAR support – (136-174, 400-470) MHz
(O) CLIN 39-11	DVRS Portable Radio compatible with DVR with P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 39-12	DVRS Portable Radio compatible with DVR with P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 39-13	DVRS Portable Radio compatible with DVR with Standalone mode notification support – (136-174, 400-470) MHz
(O) CLIN 39-14	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (400-470, 700-800) MHz
(O) CLIN 39-15	DVRS Portable Radio compatible with DVR with Standalone mode notification support - (136-174, 700-800) MHz
(O) CLIN 39-16	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support – (136-174, 400-470) MHz
(O) CLIN 39-17	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (400-470, 700-800) MHz
(O) CLIN 39-18	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174, 700-800) MHz
(O) CLIN 39-19	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 39-20	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 39-21	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 39-22	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174, 400-470) MHz
(O) CLIN 39-23	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 39-24	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 39-25	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 39-26	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 39-27	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 39-28	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174, 400-470) MHz
(O) CLIN 39-29	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 39-30	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 39-31	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz

(O) CLIN 39-32	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 39-33	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 39-34	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 39-35	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 39-36	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 39-37	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174, 400-470) MHz
(O) CLIN 39-38	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (400-470, 700-800) MHz
(O) CLIN 39-39	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174, 700-800) MHz
(O) CLIN 39-40	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 39-41	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 39-42	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 39-43	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 39-44	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 39-45	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 39-46	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 39-47	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 39-48	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz

Note:

CLIN 39 must include all required functionality to meet all mandatory requirements as per this SOR. CLIN 39 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.4.10 CLIN 40: P25 DVR Multi Band Portable Radio Full Keypad

Table 40 CLIN 40

Item	CLIN 40 - P25 DVR Multi Band Portable Radio Full Keypad
(M) CLIN 40-1	DVRS Portable Radio compatible with DVR
(O) CLIN 40-2	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support
(O) CLIN 40-3	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 40-4	DVRS Portable Radio compatible with DVR with P25 OTAR support
(O) CLIN 40-5	DVRS Portable Radio compatible with DVR with Standalone mode notification support
(O) CLIN 40-6	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support
(O) CLIN 40-7	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 40-8	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support
(O) CLIN 40-9	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 40-10	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support
(O) CLIN 40-11	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 40-12	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 40-13	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support
(O) CLIN 40-14	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 40-15	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support

(O) CLIN 40-16	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support

Note:
CLIN 40 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 40 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One - Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.4.11   CLIN 41: P25 DVR Multi Band Portable Radio Limited Keypad (Navigation keys only)

Table 41 CLIN 41

Item	CLIN 41 - P25 DVR Multi Band Portable Radio Limited Keypad
(M) CLIN 41-1	DVRS Portable Radio compatible with DVR
(O) CLIN 41-2	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support
(O) CLIN 41-3	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 41-4	DVRS Portable Radio compatible with DVR with P25 OTAR support
(O) CLIN 41-5	DVRS Portable Radio compatible with DVR with Standalone mode notification support
(O) CLIN 41-6	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support
(O) CLIN 41-7	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 41-8	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support
(O) CLIN 41-9	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 41-10	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support
(O) CLIN 41-11	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 41-12	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 41-13	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support

(O) CLIN 41-14	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 41-15	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 41-16	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support

Note:
CLIN 41 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 41 must be delivered with the following accessories:

  a. One - Single Battery charger as per **Error! Reference source not found.**;
  b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
  c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
  d. One – Antenna as per section 6.7; and
  e. One - "D" clip as per section 6.12.7

3.4.12   CLIN 42: P25 DVR Multi Band Portable Radio No Keypad

Table 42 CLIN 42

Item	CLIN 42 - P25 DVR Multi Band Portable Radio No Keypad
(M) CLIN 42-1	DVRS Portable Radio compatible with DVR
(O) CLIN 42-2	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration support
(O) CLIN 42-3	DVRS Portable Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 42-4	DVRS Portable Radio compatible with DVR with P25 OTAR support
(O) CLIN 42-5	DVRS Portable Radio compatible with DVR with Standalone mode notification support
(O) CLIN 42-6	DVRS Portable Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support
(O) CLIN 42-7	DVRS Portable Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 42-8	DVRS Portable Radio compatible with DVR with Standalone mode notification and P25 OTAR support
(O) CLIN 42-9	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 42-10	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support

(O) CLIN 42-11	DVRS Portable Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 42-12	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 42-13	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support
(O) CLIN 42-14	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 42-15	DVRS Portable Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 42-16	DVRS Portable Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support

Note:
CLIN 42 must include all required functionality to meet all mandatory requirements as per this SOR. CLIN 42 must be delivered with the following accessories:

a. One - Single Battery charger as per **Error! Reference source not found.**;
b. One - Remote Speaker Microphone (RSM) as per section **Error! Reference source not found.**;
c. Two - High Capacity Li-Ion batteries as per section **Error! Reference source not found.**;
d. One – Antenna as per section 6.7; and
e. One - "D" clip as per section 6.12.7

3.4.13   CLIN 43: P25 DVR Portable Radios Accessories

Table 43 CLIN 43

Item	CLIN 43 - P25 DVR Portable Radios Accessories
(M) CLIN 43-1	DVRS Portable radio high capacity Li-ion battery
(M) CLIN 43-2	DVRS Portable radio extra high capacity rechargeable battery
(O) CLIN 43-3	DVRS Portable radio battery
(M) CLIN 43-4	DVRS Portable Radio Key Fill Device
(M) CLIN 43-5	DVRS Radio Programming Software and Cable (USB 2.0 or 3.0) for Portable Radios
(M) CLIN 43-6	DVRS Portable radio removable, flexible, coated antenna (136-174) MHz
(M) CLIN 43-7	DVRS Portable radio removable, flexible, coated antenna (400-470) MHz
(M) CLIN 43-8	DVRS Portable radio removable, flexible, coated antenna (700-800) MHz
(M) CLIN 43-9	DVRS Portable radio removable, flexible, coated antenna (136-174, 400-470) MHz

(M) CLIN 43-10	DVRS Portable radio removable, flexible, coated antenna (400-470, 700-800) MHz
(M) CLIN 43-11	DVRS Portable radio removable, flexible, coated antenna (136-174, 700-800) MHz
(M) CLIN 43-12	DVRS Portable radio removable, flexible, coated antenna (136-174, 400-470, 700-800) MHz
(M) CLIN 43-13	DVRS Portable radio battery charger Single unit
(M) CLIN 43-14	DVRS Portable radio battery charger Multi Bay unit
(M) CLIN 43-15	DVRS Portable radio battery Vehicle charger
(M) CLIN 43-16	DVRS Portable Radio Remote Speaker Microphone
(M) CLIN 43-17	DVRS Portable Radio Speaker/microphone suitable for marine environment
(M) CLIN 43-18	DVRS Portable Radio Ear microphone kit
(M) CLIN 43-19	DVRS Portable Radio Bluetooth kits
(M) CLIN 43-20	DVRS Portable Radio 3-Wire Surveillance accessories with wired ear pieces
(M) CLIN 43-21	DVRS Portable Radio Surveillance accessories with induction wireless ear pieces
(M) CLIN 43-22	DVRS Portable Radio Skull/bone conducting microphone
(M) CLIN 43-23	DVRS Portable Radio leather carrying case with restraining straps
(M) CLIN 43-24	DVRS Portable Radio nylon carrying case with restraining straps
(M) CLIN 43-25	DVRS Portable Radio "D" swivel clip
(M) CLIN 43-26	DVRS Portable Radio Belt clip

3.4.14   CLIN 44: P25 Single Band DVR Mobile Radio

Table 44 CLIN 44

Item	CLIN 44 - P25 Single Band DVR Mobile Radio
(M) CLIN 44-1	DVRS Mobile Radio (136-174) MHz compatible with DVR
(M) CLIN 44-2	DVRS Mobile Radio (400-470) MHz compatible with DVR
(M) CLIN 44-3	DVRS Mobile Radio (700-800) MHz compatible with DVR
(O) CLIN 44-4	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 44-5	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration support - (400-470) MHz

(O) CLIN 44-6	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 44-7	DVRS Mobile Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 44-8	DVRS Mobile Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 44-9	DVRS Mobile Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 44-10	DVRS Mobile Radio compatible with DVR with P25 OTAR support - (136-174) MHz
(O) CLIN 44-11	DVRS Mobile Radio compatible with DVR with P25 OTAR support - (400-470) MHz
(O) CLIN 44-12	DVRS Mobile Radio compatible with DVR with P25 OTAR support - (700-800) MHz
(O) CLIN 44-13	DVRS Mobile Radio compatible with DVR with Standalone mode notification support - (136-174) MHz
(O) CLIN 44-14	DVRS Mobile Radio compatible with DVR with Standalone mode notification support - (400-470) MHz
(O) CLIN 44-15	DVRS Mobile Radio compatible with DVR with Standalone mode notification support - (700-800) MHz
(O) CLIN 44-16	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174) MHz
(O) CLIN 44-17	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (400-470) MHz
(O) CLIN 44-18	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (700-800) MHz
(O) CLIN 44-19	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 44-20	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 44-21	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 44-22	DVRS Mobile Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174) MHz
(O) CLIN 44-23	DVRS Mobile Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (400-470) MHz
(O) CLIN 44-24	DVRS Mobile Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (700-800) MHz
(O) CLIN 44-25	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 44-26	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 44-27	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 44-28	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174) MHz

(O) CLIN 44-29	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (400-470) MHz
(O) CLIN 44-30	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (700-800) MHz
(O) CLIN 44-31	DVRS Mobile Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 44-32	DVRS Mobile Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 44-33	DVRS Mobile Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 44-34	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 44-35	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 44-36	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 44-37	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174) MHz
(O) CLIN 44-38	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (400-470) MHz
(O) CLIN 44-39	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (700-800) MHz
(O) CLIN 44-40	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 44-41	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 44-42	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 44-43	DVRS Mobile Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 44-44	DVRS Mobile Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz
(O) CLIN 44-45	DVRS Mobile Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz
(O) CLIN 44-46	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174) MHz
(O) CLIN 44-47	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470) MHz

(O) CLIN 44-48	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (700-800) MHz

Note:
CLIN 44 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 44 must be delivered with the following accessories:

a. One - Mobile Radio Control Head;
b. One - Control Head Cable (5m or more) with locking connectors;
c. One - Separate Microphone as per section 7.5.3.2;
d. One - Separate External Speaker as per section **Error! Reference source not found.**; and
e. One - Antenna as per section 7.6.

3.4.15   CLIN 45: P25 Dual Band DVR Mobile Radio

Table 45 CLIN 45

Item	CLIN 45 - P25 Dual Band DVR Mobile Radio
(M) CLIN 45-1	DVRS Mobile Radio (136-174, 400-470) MHz compatible with DVR
(M) CLIN 45-2	DVRS Mobile Radio (400-470, 700-800) MHz compatible with DVR
(M) CLIN 45-3	DVRS Mobile Radio (136-174, 700-800) MHz compatible with DVR
(O) CLIN 45-4	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration support - (136-174, 400-470) MHz
(O) CLIN 45-5	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration support - (400-470, 700-800) MHz
(O) CLIN 45-6	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration support - (136-174, 700-800) MHz
(O) CLIN 45-7	DVRS Mobile Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 45-8	DVRS Mobile Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 45-9	DVRS Mobile Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 45-10	DVRS Mobile Radio compatible with DVR with P25 OTAR support - (136-174, 400-470) MHz
(O) CLIN 45-11	DVRS Mobile Radio compatible with DVR with P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 45-12	DVRS Mobile Radio compatible with DVR with P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 45-13	DVRS Mobile Radio compatible with DVR with Standalone mode notification support - (136-174, 400-470) MHz

(O) CLIN 45-14	DVRS Mobile Radio compatible with DVR with Standalone mode notification support - (400-470, 700-800) MHz
(O) CLIN 45-15	DVRS Mobile Radio compatible with DVR with Standalone mode notification support - (136-174, 700-800) MHz
(O) CLIN 45-16	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174, 400-470) MHz
(O) CLIN 45-17	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (400-470, 700-800) MHz
(O) CLIN 45-18	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support - (136-174, 700-800) MHz
(O) CLIN 45-19	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 45-20	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 45-21	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 45-22	DVRS Mobile Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174, 400-470) MHz
(O) CLIN 45-23	DVRS Mobile Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 45-24	DVRS Mobile Radio compatible with DVR with Standalone mode notification and P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 45-25	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 45-26	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 45-27	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 45-28	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174, 400-470) MHz
(O) CLIN 45-29	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (400-470, 700-800) MHz
(O) CLIN 45-30	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support - (136-174, 700-800) MHz
(O) CLIN 45-31	DVRS Mobile Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 45-32	DVRS Mobile Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 45-33	DVRS Mobile Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 45-34	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz

(O) CLIN 45-35	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 45-36	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 45-37	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174, 400-470) MHz
(O) CLIN 45-38	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (400-470, 700-800) MHz
(O) CLIN 45-39	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support - (136-174, 700-800) MHz
(O) CLIN 45-40	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 45-41	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 45-42	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 45-43	DVRS Mobile Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 45-44	DVRS Mobile Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 45-45	DVRS Mobile Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz
(O) CLIN 45-46	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 400-470) MHz
(O) CLIN 45-47	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (400-470, 700-800) MHz
(O) CLIN 45-48	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support - (136-174, 700-800) MHz

Note:
CLIN 45 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 45 must be delivered with the following accessories:

  a. One - Mobile Radio Control Head;
  b. One - Control Head Cable (5m or more) with locking connectors;
  c. One - Separate Microphone as per section 7.5.3.2;
  d. One - Separate External Speaker as per section **Error! Reference source not found.**; and
  e. One - Antenna as per section 7.6.

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3.4.16   CLIN 46: P25 Multi Band DVR Mobile Radio

Table 46 CLIN 46

Item	CLIN 46 - P25 Multi Band DVR Mobile Radio
(M) CLIN 46-1	DVRS Mobile Radio compatible with DVR
(O) CLIN 46-2	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration support
(O) CLIN 46-3	DVRS Mobile Radio compatible with DVR with Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 46-4	DVRS Mobile Radio compatible with DVR with P25 OTAR support
(O) CLIN 46-5	DVRS Mobile Radio compatible with DVR with Standalone mode notification support
(O) CLIN 46-6	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Automatic Registration/De-Registration support
(O) CLIN 46-7	DVRS Mobile Radio compatible with DVR with Standalone mode notification and Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 46-8	DVRS Mobile Radio compatible with DVR with Standalone mode notification and P25 OTAR support
(O) CLIN 46-9	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 46-10	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration and P25 OTAR support
(O) CLIN 46-11	DVRS Mobile Radio compatible with DVR with P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 46-12	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 46-13	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR and Standalone mode notification support
(O) CLIN 46-14	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 46-15	DVRS Mobile Radio compatible with DVR with Standalone mode notification, P25 OTAR, Fail-Soft, Out of Range and Site Trunking support
(O) CLIN 46-16	DVRS Mobile Radio compatible with DVR with Automatic Registration/De-Registration, P25 OTAR, Standalone mode notification, Fail-Soft, Out of Range and Site Trunking support

Note:

CLIN 46 must include all required functionality to meet all mandatory requirements as per this SOR.
CLIN 46 must be delivered with the following accessories:

    a.   One - Mobile Radio Control Head;
    b.   One - Control Head Cable (5m or more) with locking connectors;
    c.   One - Separate Microphone as per section 7.5.3.2;
    d.   One - Separate External Speaker as per section **Error! Reference source not found.**; and
    e.   One - Antenna as per section 7.6.

3.4.17   CLIN 47: P25 DVR Mobile Radios Accessories

Table 47 CLIN 47

Item	CLIN 47 - P25 DVR Mobile Radios Accessories
(M) CLIN 47-1	DVRS Mobile Radio Control Head
(M) CLIN 47-2	DVRS Mobile Radio Control Head Cable
(O) CLIN 47-3	DVRS Mobile Radio Control Head Multi Radio Control
(O) CLIN 47-4	DVRS Mobile Radio Control Head Multi Radio Control Cable
(M) CLIN 47-5	DVRS Mobile Radio Handheld Control Head with integrated microphone
(M) CLIN 47-6	DVRS Mobile Radio Handheld Control Head Installation cable
(M) CLIN 47-7	DVRS Mobile Radio Key Fill Device
(M) CLIN 47-8	DVRS Mobile Radio Programming Software and Cable (USB 2.0 or 3.0)
(M) CLIN 47-9	DVRS Mobile Radio antenna (136-174) MHz
(M) CLIN 47-10	DVRS Mobile Radio antenna (400-470) MHz
(M) CLIN 47-11	DVRS Mobile Radio antenna (700-800) MHz
(M) CLIN 47-12	DVRS Mobile Radio antenna (136-174, 400-470) MHz
(M) CLIN 47-13	DVRS Mobile Radio antenna (400-470, 700-800) MHz
(M) CLIN 47-14	DVRS Mobile Radio antenna (136-174, 700-800) MHz
(M) CLIN 47-15	DVRS Mobile Radio antenna (136-174, 400-470, 700-800) MHz
(M) CLIN 47-16	DVRS Mobile Radio – External Microphone
(M) CLIN 47-17	DVRS Mobile Radio – External Speaker
(M) CLIN 47-18	DVRS Mobile Radio – Front Panel
(M) CLIN 47-19	DVRS Mobile Radio – Mounting Bracket

4   MANDATORY GENERAL EQUIPMENT SPECIFICATIONS

4.1   Codes

4.1.1   Alternating Current (AC) powered equipment must be certified by the Canadian Standards Association (CSA).

4.1.2   Radio equipment requiring a technical acceptance certificate as per Section 4(2) of the Radiocommunication Act must comply with RSS-Gen, RSS-119, RSS-102, and applicable parts of CS-03.

4.1.3   Radio equipment must have an Innovation, Science and Economic Development Canada (formerly Industry Canada) Radio Compliance certificate as of the date of RFSO solicitation period closure.

4.1.4   Offeror must provide a list of radio equipment with certificates for which they currently have Innovation, Science and Economic Development Canada (formerly Industry Canada) Radio Compliance certificates.

4.2   Standards

4.2.1   Radio equipment must be based on APCO Project 25 standards as defined by the TIA-102 series of documents.

4.2.2   Unless otherwise stated, all references made to the suite of TIA-102 documents refer to the most current published version, including addendums that have been signed-off by the P25 steering committee as of 6 months prior to the date of RFSO solicitation period closure.

4.2.3   Internet Protocol (IP) and related protocols must conform to Internet Engineering Task Force (IETF) standards.

4.2.4   The Offeror must meet or exceed the Mandatory Technical Specifications for radio equipment during the period of this Standing Offer or Contract that extends beyond the period of the Standing Offer. If the Offeror has proposed the manufacturer's standards in its Offer, and the manufacturer reduces its standards below those of the Mandatory Technical Requirements, the Mandatory Technical Requirements shall thereafter be deemed to automatically apply.

4.3   Architecture

4.3.1   Offeror must describe how the radio equipment design architecture facilitates:

a) Software updates and enhancements; and

b) Integration with 3rd party software, equipment and accessories.

4.4   Conformance to Industry Standard Specifications

4.4.1   Offeror must describe the process they employ to ensure that their radio equipment conforms to applicable Industry Standards and interoperates with competitive vendors' radio equipment.

4.4.2   Offeror must describe the process they use to resolve any disputes surrounding interpretation of Industry Standards.

4.4.3   Offeror must provide a list of third party radio systems which have been proven to be compatible with their radio equipment. A test report must be included that validates any Offeror compatibility claims.

4.5   Security

4.5.1   Offeror must describe how their radio equipment security architecture is designed to prevent:

   a) Unauthorized access to equipment configuration;

   b) Unauthorized access to encryption information;

   c) System disruption through improper or unauthorized use, or equipment failure; and

   d) Unauthorized reprogramming of disabled equipment.

4.5.2   Radio equipment must be protected from unauthorized access to code-plug information.

4.5.3   Radio equipment must be protected from unauthorized reprogramming of inhibited radio equipment.

4.6   Design Life

4.6.1   Radio equipment must not be:

   a) Manufacturer discontinued; or

   b) Subject to any notice or advisory from the manufacturer that it will be discontinued within 3 years of this RFSO solicitation period closing date.

4.6.2   Offeror must provide a written manufacturer statement for all radio equipment, confirming that the radio equipment is: neither manufacturer discontinued nor is there intent to discontinue the radio equipment within 3 years of this RFSO solicitation period closing date.

4.6.3   Radio equipment excluding accessories and batteries must have a minimum Useful Lifespan of 10 years.

4.6.4   Offeror must provide an extended warranty option to cover the minimum Useful Lifespan of 10 years.

4.6.5   Offeror must describe:

    a.   Expected Useful lifespan of radio equipment; and

    b.   Expected manufacturer duration of service and support of radio equipment.

4.6.6   Offeror must provide a product roadmap for all radio equipment proposed.

4.7   Quality

4.7.1   Offeror must be ISO 9001:2008 certified prior to and during all periods of manufacturing of radio equipment.

4.7.2   Offeror must describe their quality assurance process used to ensure that radio equipment operates and functions as intended.

4.7.3   Offeror must describe their process and typical timeframes to resolve product defects identified by the Technical Authority when:

    a.   Radio equipment is under warranty (Standard or Extended); and

    b.   Radio equipment is outside the warranty period.

4.7.4   Offeror must describe the process and timelines used to notify the Technical Authority of product defects identified by other users or by the Offeror.

4.7.5   Radio equipment must be commercially available prior to this RFSO solicitation period closing date.

4.7.6   Single Band radio equipment must be used in a production environment in at least two other P25 public-safety systems of 2000+ users within North America as of the date of RFSO solicitation period closure. Offeror must provide references complete with contact information for such system.

4.7.7   Dual Band radio equipment must be used in a production environment in at least two other P25 public-safety systems of 2000+ users within North America as of the date of RFSO solicitation period closure. Offeror must provide references complete with contact information for such system.

4.7.8   Multi Band radio equipment must be used in a production environment in at least two other P25 public-safety systems of 500+ users within North America as of the date of RFSO solicitation period closure. Offeror must provide references complete with contact information for such system.

4.7.9   P25 Digital Vehicular Repeater Systems equipment must be used in a production environment in at least two other P25 public-safety systems of 200+ users within North America as of the date of RFSO solicitation period closure. Offeror must provide references complete with contact information for such system.

4.7.10   Offeror must provide a list of public safety customers, complete with contact information, within North America who have deployed the Offeror's radio equipment in their operational live radio system(s).

4.8   Licenses

4.8.1   Software, product usage, feature, capacity licenses and/or activation keys must be transferrable to replacement radio equipment of the same model or equivalent functionality provided with replacement radio equipment of the same model, without cost to the Authorized User, in the event of radio equipment damage or loss for the minimum Useful Lifespan.

    4.8.1.1 Excluding new features or capabilities, Offeror should provide the duration, in months, for which radio equipment is eligible for firmware/software upgrades at no cost to the Authorized User.

4.9   Identification

4.9.1   Radio equipment serial numbers must be machine readable using barcode or RFID technologies.

4.9.2   Offeror must describe the method used to permit machine reading of radio equipment serial numbers.

5   MANDATORY EQUIPMENT SPECIFICATIONS

5.1   Regulatory Band Requirement

5.1.1   Radio equipment must fully conform to regulatory band requirements for each supported band(s) as defined in the corresponding Band Specific Requirements Section of this document. (Section 8)

5.2   P25 Phase 1 Air Interface

5.2.1　　Radio equipment must support an Air Interface which fully conforms to TIA-102.BAAA-A, FDMA – Common Air interface.

5.2.2　　Radio equipment must support an Air Interface which fully conforms to TIA-102.BAAC-C, Common Air Interface Reserved Values.

5.2.3　　Radio equipment must utilize a vocoder which fully conforms to TIA-102.BABA, Vocoder Description.

5.2.4　　Offeror must specify the version of vocoder used in the radio equipment.

5.2.5　　Supplier Declaration of Conformance (SDoC) and Summary Test Reports showing compliance with Sections 2.2.1, 3, and 4 of US Department of Homeland Security Project 25 Compliance Assessment Bulletin, Baseline Common Air Interface Testing Requirements (P25-CAB-CAI_Test_Req March 2010) must be provided for the radio equipment.

5.3　P25 Phase 2 Air Interface

5.3.1　　Radio Equipment must support P25 Phase 2 operations.

5.3.2　　Offeror must describe the steps required to upgrade radio equipment to P25 phase 2 operations.

5.3.3　　Radio equipment must support an air interface which fully conforms to TIA-102.BBAB, Phase 2 Two-Slot Time Division Multiple Access Physical Layer Protocol Specification.

5.3.4　　Radio equipment must have the capacity to support an air interface which fully conforms to TIA-102.BBAC, Phase 2 Two-Slot TDMA Media Access Control Layer Description.

5.3.5　　Radio equipment must support a vocoder which fully conforms to TIA-102.BABA as amended by TIA-102.BABA-1, Half Rate Vocoder Annex.

5.4　Trunking

5.4.1　　Radio equipment operation must fully conform with TIA-102.AABA-B, Trunking Overview.

5.4.2　　Radio equipment operation must fully conform with TIA-102.AABD-A, Trunking Procedures.

5.4.3　　In clarification of Section 6.6.1 of TIA document, TIA-102.AABD-B, the radio Equipment must respond to System generated Group Affiliation Queries described in Section 6.7.3 of the same document.

5.4.4   Radio equipment must support the specified values presented in Section 17 of TIA-102.AABD-B.

5.4.5   In clarification of section 12.6 of TIA document, TIA-102.AABD-B, the radio equipment must be capable of supporting 12 adjacent sites for each current site.

5.4.6   Offeror must specify the maximum number of adjacent sites supported by the radio equipment.

5.4.7   Radio equipment must be fully conformant with TIA-102.AABB-B, Trunking Control Channel Formats, excepting Protected TSBK and Protected Multi-Block TSBK.

5.4.8   In clarification of Section 3.2 of TIA document, TIA-102.AABB-B, radio equipment must support dedicated control channel mode.

5.4.9   Radio equipment must fully conform with TIA-102.AABC-C, Trunking Control Channel Messages.

5.4.10   Radio equipment must fully conform with TIA-102.AABC-C-1, Trunking Control Channel Messages Addendum 1.

5.4.11   Radio equipment must fully conform with TIA-102.AABF-C, Link Control Word Formats and Messages.

5.4.12   Radio equipment must fully conform with TIA-102.AABF-C-1, Link Control Word Formats and Messages Addendum 1.

5.4.13   Offeror must specify any non-standard link control words used within the Link Control layer as specified by TIA-102.AABF-C, which are supported by their radio equipment.

5.4.14   Supplier Declaration of Conformance (SDoC) and Summary Test Reports (STR) showing compliance with the Sections 2.2.2, 3 and 4 of US Department of Homeland Security Project 25 Compliance Assessment Bulletin, Baseline Common Air Interface Testing Requirements (P25-CAB-CAI_Test_Req March 2010) must be provided for radio equipment.

5.4.15   In addition to the requirements of section 5.4.14, the Offeror must indicate the level of compliance of the radio equipment with the interoperability tests defined in TIA-102.CABC-B, Interoperability Testing for Voice Operation in Trunked Systems.

5.4.16   The tests referenced in Section 5.4.15 must include the following tests which TIA-102.CABC-B classifies as Standard Options:

   a) 2.2.1.4.2 Test case 2 – Denied or refused registration;

   b) 2.2.2.4.4 Test case 4 – Group call interrupt;

   c) 2.2.2.4.5 Test case 5 – Group call routing;

d) 2.2.3.4.1 Test case 1 – Unit-to-unit call with target availability check;

e) 2.2.3.4.3 Test case 3 – Unit-to-unit call queued with target availability check – traffic channel assignment after target availability check;

f) 2.3.4.4 Test case 4 – Unit-to-unit call queued with target availability check – traffic channel assignment before target availability check;

g) 2.2.3.4.5 Test case 5 – Unit-to-unit call without target availability check;

h) 2.2.3.4.6 Test case 6 – Unit-to-unit call queued without target availability check;

i) 2.2.3.4.7 Test case 7 – Unit-to-unit call denied;

j) 2.2.5 Test Suite: Affiliation;

k) 2.2.6 Test Suite: Announcement group call;

l) 2.2.7 Test Suite: Emergency Alarm;

m) 2.2.7.4.2 Test case 2 – Emergency alarm, invalid radio;

n) 2.2.8 Test Suite: Emergency Group Call;

o) 2.2.8.4.2 Test case 2 – Pre-Programmed emergency call;

p) 2.2.8.4.3 Test case 3 – Emergency call, invalid radio;

q) 2.2.8.4.6 Test Case 6 – Emergency call request ruthless pre-emption;

r) 2.2.10 Test Suite: Encryption;

s) 2.2.12 Test Suite Authentication;

t) 2.2.15 Test Suite: Call Alert;

u) 2.2.16 Test Suite: Short Message;

v) 2.2.17 Test Suite: Status Query;

w) 2.2.18 Test Suite: Status Update;

x) 2.2.19 Test Suite Radio Unit Monitoring;

y) 2.2.19.4.2 Test case 2 – Radio Unit Monitor – Individual Silent;

z) 2.2.20 Test Suite: Radio Unit Disable/Re-enable;

aa) 2.2.21 Test Suite Radio Check;

bb) 2.2.22 Test Suite: Radio Detach;

5.5   P25 Conventional Operation

5.5.1   Radio equipment must operate on conventional P25 systems.

5.5.2   Radio equipment must support P25 simplex communications.

5.5.3   Radio equipment must support P25 conventional vote-scan operation.

5.5.4   Offeror must specify if radio equipment while in P25 conventional vote-scan operation is able to scan and receive on its own vote-scan SU transmit frequency.

5.5.5   Offeror must describe limits, on the span of frequencies and the number of frequencies allowed in the P25 conventional vote-scan list.

5.5.6   Offeror must describe P25 conventional vote-scan functionality including but not limited to: algorithms used, scan rate, RSSI or BER threshold values, key performance metrics used in voting the best channel.

5.5.7   In a hybrid system configuration (Conventional, Trunked operation) the Offeror must describe the different method(s) required if any, to switch between conventional and trunked operation and vice-versa.

5.5.8   If the method(s) identified in section 5.5.7 require user intervention, the Offeror must outline the user process that would have to be followed to perform this switch.

5.5.9   Offeror must identify and describe any areas where their radio equipment is not fully conformant with TIA-102.AABG, Conventional Control Messages. If no description is provided, the Offeror is deemed to have confirmed full conformity.

5.5.10   Offeror must identify and describe any areas where their radio equipment is not fully conformant with TIA-102.BAAD-A, Conventional Procedures. If no description is provided, the Offeror is deemed to have confirmed full conformity.

5.5.11   Offeror must identify and describe any areas where their radio equipment is not fully conformant with TIA-102.CABA. If no description is provided, the Offeror is deemed to have confirmed that it fully conforms to TIA-102,CABA.

5.5.12   Radio equipment must support MDC1200 system.

5.5.13   Offeror must describe what MDC1200 system options the radio equipment supports. (Emergency, Status and values)

5.5.14   Offeror must describe if MDC1200 features require the radio system to generate an MDC1200 ACK packet.

5.6   Data Service

5.6.1   Radio equipment must conform to the recommendations and principles presented in TIA-102.BAEA-B, Data Overview.

5.6.2   Radio equipment must be fully conformant with TIA-102.BAEB-B, Packet Data Specification.

5.7   Security and Encryption

5.7.1 Radio equipment must conform to the recommendations and principles presented in TIA-102.AAAB-A, Digital Land Mobile Radio – Security Services Overview.

5.7.2 Radio equipment must be fully conformant with TIA-102.AAAD-A, Digital Land Mobile Radio Block Encryption Protocol.

5.7.3 Radio equipment must support Advanced Encryption Standard (AES) as defined in Annex C of TIA-102.AAAD-A, Digital Land Mobile Radio Block Encryption Protocol.

5.7.4 Radio equipment must utilize the encryption standard known as the Advanced Encryption Standard (AES 256 bits) using the Rijndael algorithm and be registered by the Federal Information Processing Standard (FIPS) as FIPS 197. Proof of radio equipment registration as FIPS 197 must be provided with the Offer.

5.8 Encryption Keys

5.8.1 Keys must be stored within a cryptographic module in the radio equipment in a manner which conforms at a minimum to FIPS 140-2 Level 1 security.

    5.8.1.1 The Keys should be stored within a cryptographic module in the radio equipment in a manner which conforms at FIPS 140-2 Level 2 or 3 security.

5.8.2 Radio equipment must contain data ports suitable for manual loading of encryption keys.

5.8.3 A minimum of 16 unique active and 16 unique inactive traffic encryption keys must be supported in radio equipment.

    5.8.3.1 17 or more unique active and 17 or more unique inactive traffic encryption keys should be supported in radio equipment unit.

5.8.4 Offeror must state the number of unique active and inactive traffic encryption keys supported in radio equipment.

5.8.5 Radio equipment must have an option to retain the encryption key indefinitely through periods of power loss.

5.8.6 If non-destructive methods to zeroize cryptographic keys from non-functioning radio equipment exist, then Offeror must provide them with their response.

5.9 Standard Key Fill Device (KFD)

5.9.1 Radio equipment must be compatible with Offeror's Key Fill Device.

5.9.2 Key Fill Device(s) must be able to generate and store AES 256 bit keys.

5.9.3 KFD unit(s) must comply with:

a) Protocol (normative) - Project 25 key fill device (KFD) interface protocol, TIA-102.AACD.

5.9.4 Key Fill Device must be at a minimum NIST FIPS 140-2 level 1 certified.

5.9.5 Offeror must indicate the quantity of radio equipment units that their KFD is capable of provisioning using a unique UKEK per radio equipment unit and not a common provisioning key.

5.9.6 Offeror must indicate the quantity of radio equipment units that their KFD is capable of key loading, without reconnection to the KMF. The Offeror may assume for this requirement, each radio equipment unit will be loaded with a total of 4 unique AES256 keys (2 keysets for 2 SLNs.)

5.10   Request to Talk (RTT)

5.10.1 Radio equipment must support in full the Request to Talk and Emergency Request to Talk requirements as presented in the RCMP RTT specification document found in Appendix A.1.

5.11   Over-The-Air-Rekeying (OTAR)

5.11.1 Radio equipment must have OTAR capability.

5.11.2 Offeror must specify the following for OTAR Server that they support and is proven to be compatible with their radio equipment:

a) Make and Model numbers;

b) Dimensions;

c) Manufacturer specification sheets;

d) Power requirements;

e) Maximum power consumption;

f) Thermal load under maximum power consumption conditions; and

g) A test report must be included that validates any Offeror compatibility claims.

5.11.3 Radio equipment must fully conform to the recommendations and principles presented in TIA-102.AACA-A, Digital Radio Over-The-Air-Rekeying (OTAR) Messages and Procedures.

5.11.4 Radio equipment must fully conform with TIA-102.AACA, Digital Radio Over-the-Air-Rekeying Protocol.

5.11.5 Radio equipment must fully conform with TIA-102.AACA-1, Digital Radio Over-the-Air-Rekeying Protocol Addendum 1.

5.11.6 Radio equipment must fully conform with TIA-102.AACA-2, Digital Radio Over-the-Air-Rekeying Protocol Addendum 2.

5.12 Over-The-Air-Programming (OTAP) – Non-mandatory

5.12.1 Radio equipment should support Over The Air Programming (OTAP) functionality.

5.12.2 OTAP process should not apply radio programming changes, to the radio equipment, without notifying the radio equipment user of any impacts to radio equipment`s operations and explicit radio equipment user intervention at the time of change.

5.12.3 The OTAP application should maintain a log of all changes made, including who made the changes, radio(s) affected and configuration parameter(s) affected.

5.13 Location Services – Global Positioning System (GPS)

5.13.1 Radio equipment must conform to the recommendations and principles presented in TIA-102.BAJA-A, Locations Service Overview.

5.13.2 Radio equipment must conform with TIA-102.BAJC Tier 2 Location Services.

5.13.3 Radio equipment must utilize Subnetwork Dependent Convergence Protocol (SNDCP) as described in Section 2.3.2 of TIA-102.BAJC as the lower protocol for sending location information.

5.13.4 Radio equipment must conform with TIA-102.BAJD TCP/UDP Port Number Assignments.

5.13.5 The GPS receiver, excluding the GPS antenna, must be integrated fully within the radio equipment.

5.13.6 In clarification of Section 2.1.5.1.1 of TIA-102.BAJC, radio equipment must display the received location information from the Location Information System locally to its user.

5.13.7 In clarification of Section 2.1.5.1.2.1 of TIA-102.BAJC, radio equipment must at a minimum support the following two triggering conditions:

   a) Emergency; and

   b) Host Request.

5.13.8 Offeror must describe all supported triggering conditions on radio equipment.

5.13.9 Emergency and Host Request triggering conditions must be supported concurrently on radio equipment.

5.13.10 Offeror must provide GPS specifications including typical time to generate initial position fix, and minimal signal levels required for acquisition and tracking for both cold and warm start conditions.

5.13.11   Offeror must provide impact to standard radio battery (section 6.3.2) capacity as a percentage when GPS feature is enabled versus when it is disabled over a period of 12 hours in encrypted mode, based on a 5-5-90 duty cycle, where the three values reflect the percentage of transmit, receive, and stand-by time, respectively with all GPS triggering conditions disabled.

5.14   Radio Programming

5.14.1   Radio programming software which permits software, firmware and configuration updates for each radio equipment model must be available.

    5.14.1.1 The same radio programming software should be used to provision Mobile and Portable Radios.

5.14.2   Programming Software must permit the entry and modification of, at a minimum: Unit ID, Modes of Operation parameters, displayed name for each Mode of Operation, all radio equipment configuration parameters, scan lists, assignment of radio equipment button functionality (RTT, Emergency Call), and SU display and audio options.

5.14.3   Radio equipment configuration must permit the lock-out of radio equipment to prevent unauthorized modification or disclosure of configuration parameters.

5.14.4   Offeror must describe the security mechanism, number of security levels permitted, and whether individual radio equipment parameters can be tied to a specific security level.

5.14.5   Cloning of radio equipment programming on multiple radios must be supported. Cloning means the duplication of all radio configuration parameters expect those parameters associated with radio equipment IDs.

5.14.6   Offeror must specify the maximum number of radios which can be cloned at one time and describe the methodology.

5.14.7   Offeror must describe any database provisions in the programming software for maintaining a record of the profiles for each radio.

5.14.8   Radio equipment programming application must permit configuration parameters to be electronically distributed to service depots for radio equipment programming.

5.14.9   Radio equipment configuration files must be secured to prevent unauthorized modification or disclosure.

5.14.10   Programming software must function on COTS PC computers running Windows 7 32 Bit and Windows 7 64 Bit OS.

5.14.11   Offeror must describe process undertaken to keep radio equipment programming software upgradable to support latest OS versions as they become available.

5.14.12   Programing Cables must be supplied with USB 2.0 or USB 3.0 interface for attachment to programming computers.

5.15   Authentication

5.15.1   Radio Equipment must be fully conformant with TIA-102.AACE-A, Link Layer Authentication, excepting Mutual Authentication.

5.15.2   The authentication keys must be loadable into radio equipment and authentication server via an automated process using a Key Fill Device.

5.15.3   Offeror must describe the systems with which radio equipment has been certified by the Offeror to operate on using the authentication features described above. Proof of certification must be provided before the solicitation period close.

5.16   Warranty

5.16.1   The Offeror must provide a comprehensive warranty program for all radio equipment offered in its Offer which provides, at a minimum, the following:

    a. Product defect/malfunction correction and replacement;

    b. Product security vulnerability (hardware/software) correction and replacement;

    c. Product performance deficiencies correction from stated product specifications as of the time of this RFSO solicitation period closing date;

    d. Product replacement, testing and restoration to factory specifications;

    e. Product shipping expenses, to and from Offeror's facilities.

5.16.2   Offeror must provide their product repair time lines for radio equipment undergoing warranty repairs. The timeline must start when Offeror receives the radio equipment at their facilities and ends when radio equipment departs their facilities.

5.16.3   Offeror must provide their product replacement time lines for radio equipment undergoing warranty replacements. The timeline must start when Offeror receives the radio equipment at their facilities and ends when radio equipment departs their facilities.

5.16.4   Offeror must describe what services other than the ones listed in section 5.16.1, their comprehensive warranty entails for their radio equipment.

5.16.5   Offeror must indicate the duration in months of their standard comprehensive warranty for their radio equipment.

5.16.6   Offeror must offer extended standard comprehensive warranties for their radio equipment for a 5 year, a 7 year and a 10 year term.

5.16.7   In addition to the foregoing, the Offeror must, at all times during the existence of the Standing Offer and for any Contract whose term extends beyond the expiration of the Standing Offer, and at no additional cost to the Authorized Users, rectify and resolve any identified security vulnerability for radio equipment (Hardware or Software), within a mutually agreed upon timeframe between the Offeror and Technical Authority or Standing Offer authority, as applicable. The permissible resolution timeframe will depend on the severity, impact and complexity of identified vulnerability.

5.17   Mean Time Between Failure (MTBF)

5.17.1   Offeror must indicate approximate Mean Time Between Failure and reliability of their radio equipment.

6   Portable Radio Specific Specifications

6.1   General

6.1.1   Portable radio must support unit-to-unit direct operation (simplex or "talk around") using P25 Phase 1 and analogue or mixed mode operation.

6.1.2   Portable radio must have an audio output of 0.5 Watt at no more than 1.5% audio distortion level.

> 6.1.2.1 Portable radio should have an audio output of 1 Watt at no more than 1.5% audio distortion level.

6.1.3   Offeror must provide a list of supported hex values for single-button press, status update messages (STS_UPDT_REQ) by their portable radio.

6.2   Environmental Requirements

6.2.1   The following provides the minimum environmental standards which must be met, unless more stringent environmental standards apply elsewhere in the SOR.

6.2.2   Radio equipment and accessories, excluding batteries, must operate within tolerances across an ambient temperature range of at least -30°C to +60°C.

6.2.3   Offeror must provide the impact to battery performance (Max. charge capacity, discharge rate) when operating at ambient temperature range extremes   (-30°C to +60°C), for each battery options offered.

6.2.4   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Low Pressure (500.5), Procedure 2;

6.2.5   Radio equipment must comply with MIL-STD 810G Laboratory Test Method High Temperature (501.5), Procedure 2;

6.2.6   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Low Temperature (502.5) Procedure 1/C2 and Procedure 2/C1;

6.2.7   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Temperature Shock (503.5);

6.2.8   Offeror must indicate the procedure tested for MIL-STD 810G Laboratory Test Method Temperature Shock 503.5.

6.2.9   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Solar Radiation (505.5);

6.2.10   Offeror must indicate the procedure and parameter tested for MIL-STD 810G Laboratory Test Method Solar Radiation 505.5.

6.2.11   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Rain (506.5) Procedure 1;

6.2.12   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Humidity (507.5);

6.2.13   Offeror must indicate the procedure tested for MIL-STD 810G Laboratory Test Method Humidity 507.5.

6.2.14   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Salt Fog (509.5);

6.2.15   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Dust and Sand (510.5) Procedure 1 and Procedure 2;

6.2.16   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Immersion (512.5) Procedure 1;

6.2.17   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Vibration (514.6) Category 1; and

6.2.18   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Shock (516.6) Procedure 1, Procedure 4 and Procedure 6.

6.3   Battery

6.3.1   Offeror's Portable radio must use detachable batteries.

6.3.2   Offeror must provide a high capacity Li-ion battery capable of powering their portable radio for a minimum of 12 hours in encrypted mode, based on a 5-5-90 duty cycle, where the three values reflect the percentage of transmit, receive, and stand-by time, respectively. On P25 channels stand-by time is defined as the period of time that the radio equipment is monitoring the assigned control channel.

6.3.2.1 Offeror should provide an extra high capacity rechargeable battery that will last in excess of 12 hours in encrypted mode, based on 5-5-90 duty cycle. On P25 channels stand-by time is defined as the period of time that the SU is monitoring the assigned control channel.

6.3.3   Offeror must describe the range of batteries that are available for their radio equipment including the technology, temperature ratings, amp-hour ratings, re-charge life cycles, typical performance (operating time versus duty cycle, encrypted versus clear operation, and with various high and low temperature conditions).

6.3.4   Offeror must describe any local or enterprise based battery management solutions and their capabilities, which are supported for their radio equipment.

6.4   Physical Specifications

6.4.1   Offeror must specify the following for their portable radio(s):

a) Make and Model number;

b) Manufacturer specification sheet;

c) Industry Canada type approval number;

d) Dimensions (without antenna and battery); and

e) Weight (without antenna and battery).

6.4.1.1 Offerors should specify the weight in grams of their portable radio with standard antenna and high capacity Li-Ion battery as per section 6.3.2 of this SOR.

6.4.1.2 Offeror should specify in centimeters cubed (cm^3) the volume of their portable radio(s), excluding clips and antenna, with high capacity Li-Ion battery attached as per section 6.3.2 of this SOR.

6.4.1.3 Offeror should specify in millimeters (mm) the height of their portable radio(s), with antenna and high capacity Li-Ion battery attached as per section 6.3.2 of this RFSO.

6.5   P25 Air Interface

6.5.1   Portable radio must support P25 Phase 1 Air Interface as defined by Section 5.2 of this SOR.

6.6   Noise Cancellation

6.6.1   Radio Equipment must be designed for effective operation in high noise environments and must employ noise cancelling technologies.

6.6.2   Offeror must describe the design, capabilities, and real-life test scenarios of their noise cancelling technologies.

6.6.3   Offeror must describe if it is possible for the Subscriber Unit user to enable or disable the noise cancelling technology referenced in Section 6.6.1.

6.7   Antennae

6.7.1   Portable radio must be supplied with a removable, flexible, coated antenna.

6.7.2   Portable radio antenna must be designed for operation on the specific operating frequency band(s) supported by the portable radio.

6.7.3   Offeror must provide the radio antennae gain(s) in the worst case horizontal direction for all antenna supported band(s) (based on vertical antenna orientation) for each of the antennae models.

6.7.4   A Bayonet Neill–Concelman "BNC" adapter must be available in place of the antennae for connection of an external antenna or for testing purposes.

6.7.5   Offeror must describe the full range of available antennae. Antennae options must include the bandwidth(s) range(s) supported as a gain and/or VSWR plot against frequency(s) and antennae efficiency numbers.

6.7.6   Offeror must provide the dimensions, height and diameter at base and tip, in millimeters and the weight in grams, of the standard antenna supplied with each portable radio model.

6.8   Visual Display and Audible Indicators

6.8.1   Portable radio must incorporate a backlit display.

6.8.2   Portable radio must have an alphanumeric screen to display talkgroup/channel information with a minimum of 8 characters over one line.

6.8.3   Portable radio alphanumeric screen must have a second line to display zone information with a minimum of 8 characters.

   6.8.3.1 The number of characters per line that can be displayed on the alphanumeric screen of the portable radio should be higher than 8.

6.8.4   Portable radio display must be easily readable and understandable under low and bright light conditions.

6.8.5   Portable radio display illumination period must be programmable to conserve battery life if desired.

6.8.6   Portable radio display illumination must be activated by a programmable button and must be activated when the mode, channel or zone is changed.

6.8.7   Portable radio user must be able to turn off all illuminations, status lights and all audible indicators on radio.

6.8.8   The functionality described in Section 6.8.7 must be configurable as enabled or disabled in the portable radio configuration.

6.8.9   The display must include an indication of the approximate radio receive signal strength (RSSI) when operating on a trunked channel.

6.8.10   Portable radio display must provide an accurate visual indication of battery life.

6.8.11   The display must clearly indicate operation on an encrypted channel.

6.8.12   Portable radio should be equipped with a top facing alphanumeric display.

6.8.13   Offeror must specify all indications the top facing display is capable of showing.

6.8.14   Portable radio must be capable of using audible tones to alert the user to events.

6.8.15   Audible tones and tone volumes must be configurable for each event type through the radio programming software.

6.8.16   Portable Radio must provide an audible tone to the user if the Push To Talk (PTT) is activated and the user is out of coverage or if there is no channel available (e.g., busy) when operating on a trunked system. The tone must be different for each of the no coverage and no channel system states.

6.8.16.1 It should be possible to enable, disable and configure the audible alert and useable threshold level defined in **Error! Reference source not found.** through the radio programming software.

6.9   Capacity

6.9.1   Portable radio must have at a minimum capacity for at least 512 modes of operation (talkgroups/channels) that permit programming of various frequency channels, modes of modulation.

6.9.1.1 Portable radio should have a capacity of 513 or more modes of operation (talkgroups/channels) that permit programming of various frequency channels, modes of modulation.

6.9.2   Portable radio modes of operation must be programmable by talkgroup/channel.

6.10   Controls

6.10.1   Portable radio must be designed such that core radio controls are easy to understand and operate.

6.10.2   Portable Radio controls must be designed such that they can be operated while the user is wearing gloves.

6.10.3   Volume Control

6.10.3.1 Portable Radio primary volume adjustment must be via a single turn rotary control.

6.10.3.2 The rotary volume control must incorporate the radio on/off power switch.

6.10.3.3 The rotary volume control must not be inadvertently adjusted by bumping or brushing against user clothing or equipment.

6.10.4   Channel Selector

6.10.4.1 A single turn rotary knob must be used to select one of a minimum of sixteen primary channels/talkgroups.

6.10.4.2 This single turn rotary knob must have a permanent stop or other indicator at the first and last channel position.

6.10.4.3 The control position of this single turn rotary knob must not be easily altered by accidental bumping or brushing of clothing.

6.10.5   Portable radio volume control and channel selector knobs must be independent of one another.

6.10.6   Portable Radio must support function keys (i.e. ramp keys) to select a specific subset of the available Mode of Operations.

6.10.7   Offeror must describe the configurable function keys which are available on the portable radio.

6.10.8   Offeror must describe the configurable function keys which can be used for status message generation.

6.11   Chargers

6.11.1   General

6.11.1.1 The battery chargers must be Canadian Standards Association (CSA) approved for all alternating current (AC) line powered equipment.

6.11.1.2 All chargers and vehicle adapters offered must be optimized to support the chemistry of batteries offered.

6.11.1.3 Portable radio battery chargers must not affect the battery charge capacity of batteries left in the chargers for extended periods of time (up to 2 weeks minimum).

6.11.1.4 All chargers must charge the battery while it is attached to the radio.

6.11.2   Single bay charger

6.11.2.1 Single unit desktop chargers capable of charging to 80% capacity a fully discharged high capacity battery in no more than four (4) hours must be available.

6.11.3   Multi bay charger

6.11.3.1 A charger capable of simultaneously charging four or more batteries must be available with the following characteristics:

a) Capable of fast charging to 80% capacity four fully discharged high capacity batteries in no more than eight (8) hours and preferably within four (4) hours;

b) Available in desk mount and wall mount versions;

c) Capable of providing individually controlled and optimized charging of each battery (optimized for the technology of the individual battery);

d) Provide capacity testing capability and as applicable, battery exercising; and

e) Support all offered battery types either as a standard feature or as optional inserts or adapters.

6.11.4   Vehicular Charger

6.11.4.1 The basic vehicular adapters must be available for radio equipment that are designed for secure (rugged) mounting in vehicles and operation off of the vehicle 12 volt DC supply.

6.11.4.2 The basic vehicular charger must charge to 80% capacity a fully discharged high capacity battery in no more than four (4) hours at a rate that will not damage the battery.

6.11.4.3 The basic vehicular charger must indicate whether it is charging or has completed charging.

6.12   Accessories

6.12.1   All accessories, batteries, microphones, shrouds, chargers, belt-clips, antennae, must be able to be connected to and disconnected from the radio by the user while the radio is 'powered on' without the radio sustaining damage.

6.12.2   Remote Speaker Microphones (RSM) must be available for all portable radio models.

6.12.3   All RSM(s) must have an Emergency button, an RTT button and an ear piece connector.

6.12.4   Portable radio must have the following accessories available for all models:

a) Traffic and motorcycle headset and helmet kits;

b) Speaker/microphone suitable for marine environment;

c) Ear microphone kit;

d) Bluetooth kits;

e) Surveillance accessories with wired and wireless ear pieces; and

f) Skull/bone conducting microphone.

6.12.5   Offeror must provide a description of each accessory and identify which standard(s) each accessory has been certified for or complies with. Offeror must provide proof of certification or compliance before the solicitation period close date.

6.12.6   Leather carrying cases with restraining straps must be available.

6.12.7   Nylon carrying cases with restraining straps must be available.

6.12.8   Carrying cases must have provision for attaching a shoulder strap and being attached to a belt loop via a "D" clip or to a service belt via a belt clip.

6.12.9   Portable radio accessories must include a method of attaching the radio to a carrying accessory on the operator's belt that only allows the radio to be removed from the belt when the radio is rotated into an inverted position and raised upwards.

7   Mobile Radio Specific Requirements

7.1   General

7.1.1   Mobile radio must support unit-to-unit direct operation (simplex or "talk around") using either P25 Phase 1 or analog or mixed mode operation.

7.1.2   Mobile radio audio speaker must be rated at a minimum of 5 Watts.

7.1.3   Offeror must specify the maximum rating in Watts of the mobile radio audio speaker.

7.1.4   Offeror must provide audio speaker audio distortion level at 5 Watts and at maximum rated power as per section 7.1.3 of this SOR.

7.1.5   Mobile radio must have controls which are easy to understand and operate.

7.1.6   Mobile radio must have a primary volume adjustment controlled via a single rotary control. For the handheld (covert) control head configuration, soft-push keys are acceptable.

7.1.7   Mobile radio must have a mode/primary talkgroup selection control.

7.1.7.1 Mobile radio mode/primary talkgroup selection should be via a single rotary control that is physically separate from the volume adjustment rotary control mentioned in 7.1.6.

7.1.8   Mobile radio must have a programmable single button press key, separate from the PTT, Emergency, volume and channel selector buttons/rotary knobs.

7.1.8.1 The single press button must be located on the front of the control panel of the mobile radio; or, on the front of the remote control head panel of the mobile radio; or, on the side of the handheld (covert) control head of the mobile radio near the PTT button.

7.1.8.2 The single press button must be assigned a function programmable by software.

7.1.8.3 The single press button function must be programmed into the radio to permit the RTT functionality to be activated after the single press is activated.

7.1.8.4 The single press button must provide mechanical feedback (i.e. click) to the user that the button has been pressed and the RTT function has been initiated.

7.1.8.5 The single press button must be mechanically designed as to prevent inadvertent activation.

7.1.9   Mobile radio controls must be designed such that they can be operated while the user is wearing gloves.

7.1.10   Mobile Radio must have a separate and distinct single button for the sole purpose of initiation of an emergency call. The emergency key must be color coded (red) and mechanically designed to prevent inadvertent activation.

7.1.11   Offerors must describe the ability and standard connections available which permit the mobile radio to be interfaced to intercom systems and voice recorders.

7.2   Environmental Requirements

7.2.1   The following provides the minimum environmental standards which must be met, unless more stringent environmental standards apply elsewhere in the SOR.

7.2.2   Mobile Radio equipment and accessories, excluding batteries, must operate within tolerances across an ambient temperature range of at least -30°C to +60°C.

7.2.3   Mobile Radio equipment and accessories must be IP54 rated.

7.2.4   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Low Pressure (500.5), Procedure 2;

7.2.5   Radio equipment must comply with MIL-STD 810G Laboratory Test Method High Temperature (501.5), Procedure 1 and Procedure 2;

7.2.6   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Low Temperature (502.5) Procedure 1/C2 and Procedure 2/C1;

7.2.7   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Temperature Shock (503.5);

7.2.8   Offeror must indicate the procedure tested for MIL-STD 810G Laboratory Test Method Temperature Shock 503.5;

7.2.9   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Solar Radiation (505.5);

7.2.10   Offeror must indicate the procedure and parameter tested for MIL-STD 810G Laboratory Test Method Solar Radiation 505.5;

7.2.11   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Rain (506.5) Procedure 1;

7.2.12   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Humidity (507.5);

7.2.13   Offeror must indicate the procedure tested for MIL-STD 810G Laboratory Test Method Humidity 507.5;

7.2.14   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Salt Fog (509.5);

7.2.15   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Dust and Sand (510.5) Procedure 1 and Procedure 2;

7.2.16   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Vibration (514.6) Category 24; and

7.2.17   Radio equipment must comply with MIL-STD 810G Laboratory Test Method Shock (516.6) Procedure 1, Procedure 5 and Procedure 6.

7.3   Physical Specifications

7.3.1   Offeror must specify the following for their mobile radio(s):

         a) Make and Model number;

         b) Manufacturer specification sheet;

         c) Industry Canada type approval number;

         d) Dimensions; and

         e) Weight.

7.3.2   Offeror should specify in centimeters (cm) the height, length and depth with mounting bracket attached for each mobile radio(s). Should two or more mobile radios be required to meet the dual band or multi band requirement streams, the dimensions should include all required units.

7.3.3   Offeror must describe their solutions for a small form-factor mobile radio which is suitable for installation in compact vehicles or motorcycles.

7.4   P25 Air Interface

7.4.1   Mobile radio must support P25 Phase 1 Air Interface as defined by Section 5.2 of this Technical Specification.

7.5   Mobile Radio Component Configurations

7.5.1   Mobile radio must be available in three mounting configurations:

a) (Dash-Mount) Single-component configuration allowing installation of the complete unit in or under the dashboard of a vehicle;

b) (Trunk-Mount) Multi component configuration, allowing installation of the main radio unit in a discrete location of the vehicle, such as in the trunk or under a seat, and location of a control head in an operational part of the vehicle. The baseline trunk mount must include the control head and all required cables and connectors; and

c) (Covert) Handheld configuration which incorporates a handheld controller with integrated microphone, volume control, system select, group select, RTT, ERTT, PTT, and scan control.

7.5.2   Offeror must fully describe all three options including capabilities and any limitations.

7.5.3   (Dash-Mount) Single-component configuration

7.5.3.1 Controls must be located on the front panel of the radio.

7.5.3.2 A separate microphone must be included.

7.5.3.3 A separate external speaker must be included.

7.5.4   (Trunk-Mount) Multi-component configuration

This configuration consists of a main radio unit, separate control head, hand held microphone, speaker enclosure and interconnected with cables, 5 m in length, terminated with locking style connectors.

7.5.4.1 Mobile radio must be available in single and dual control head configurations.

7.5.4.2 Control head cable connectors must be locking and shall be available in lengths of at least 5m.

7.5.4.3 A single control head should be capable of controlling multiple Mobile Radios.

7.5.4.4 Offeror must describe dual control head operation including whether both control heads can be simultaneously active.

7.5.4.5 In a multi-component configuration, the mobile radio programming interface location must be on the control head.

7.5.5   (Covert) Handheld configuration

7.5.5.1 A handheld control head with integrated microphone and external speaker with 5 meters of control cable (between control head and main radio unit) must be available for the remote mount mobile radio. This hand held control head must provide the same functionalities as the portable radio.

7.6   Antennae

7.6.1   Offeror must provide a list of external vehicle mount antennae designed for the band(s) supported by their mobile radio.

7.7   Visual Display and Audible Indicators

7.7.1   Mobile radio must have a programmable alphanumeric display for characters with a minimum of 10 characters over one or two lines.

7.7.2   Mobile radio display must be for use in low light and bright sunlight conditions.

7.7.3   The display must be capable of being illuminated (software programmable).

7.7.4   The display illumination period must be programmable.

7.7.5   The display illumination must be activated by a programmable button and must be activated when the mode, channel or zone is changed.

7.7.6   Mobile radio user must be able to turn off all illuminations, status lights and all audible indicators on radio.

7.7.7   The functionality described in Section 7.7.6 must be configurable as enabled or disabled in the mobile radio configuration.

7.7.8   The display must include an indication of the approximate radio receive signal strength (RSSI) when operating on a trunked channel.

7.7.9   Offeror must list all indications the mobile radio display is capable of displaying.

7.7.10   Mobile Radio must provide an audible tone to the user if the PTT is activated and the user is out of coverage or if there is no channel available (e.g., busy) when operating on a trunked system. The tone must be different for each of the no coverage and no channel system states.

   7.7.10.1 It should be possible to enable, disable and configure the audible alert and useable threshold level defined in **Error! Reference source not found.** through the radio programming software.

7.8   Capacity

7.8.1   Mobile radio must have a capacity of at least 512 modes of operation (talkgroups/channels) that permit programming of various frequency channels, modes of modulation. This may allow users to select from a range of interoperability options.

7.8.2   Offeror must specify the number of Modes of Operation (talkgroups/channels) that are available for programming.

7.8.3   Mobile radio modes of operation must be programmable by talkgroup/channel.

7.9   External Ports

7.9.1   Mobile radio must include a P25 compliant data port (data peripheral interface A).

7.9.2   Mobile radio must include an external speaker connection.

7.9.3　　　All cables associated must be connected and retained using fasteners or other means to ensure mechanical and electrical integrity of the connection under vibration while allowing ease of disconnection for installation and servicing. Strain relief cords or connections must be used where applicable to reduce risk of damage.

7.10　Voltage Requirements

7.10.1　　Mobile radio must operate from vehicle negative ground, 12 volt DC power and must be fully functional with no more than 20% transmit power variation and no other performance degradation when supplied with voltages varying from 10.8 volts DC to 16 volts DC at the supply terminals.

7.10.2　　Mobile radio must be protected, in both the on and off state, against damage resulting from:

　　　　　a) open or shorted antenna;

　　　　　b) excessive or reverse input voltage; and

　　　　　c) voltage transients.

8　Band Specific Requirements

8.1　General

8.1.1　　Radio equipment must meet or exceed the performance recommendations presented in TIA-102.CAAB-D, Land Mobile Transceiver Performance Recommendations, Digital Radio Technology C4FM/CQPSK Modulation when operating in P25 Phase 1 mode.

8.2　768-776 MHz, 798-806 MHz, 806-824 MHz and 851-869 MHz (700/800) Band Specific SU Requirements

8.2.1　　Standards

8.2.1.1 Radio equipment must conform to the requirements defined in SRSP-502 and SRSP-511. (700/800 MHz)

8.2.2　　Regulatory 700/800 MHz Band Requirement

8.2.2.1 Radio equipment must be programmable with frequencies in the range of 768-776 MHz, 798-806, 806-824 MHz and 851-869 MHz and the user must be able to select assignable channels within that range.

8.2.3　　Portable Radio Radio Frequency (RF) Specifications must meet the following:

8.2.3.1 General

8.2.3.1.1　　Frequency range　　　　768-776, 798-806, 806-824 and 851-869 MHz
8.2.3.1.2　　Channel spacing (700MHz)　12.5 kHz and 25 kHz

8.2.3.1.3   Channel spacing (800MHz)   12.5 kHz and 25 kHz
8.2.3.1.4   Operating temperature range   -30°C to +60°C

8.2.3.2 Transmitter Specifications

8.2.3.2.1   Modulation limiting (700MHz)   +/- 2.5 kHz (12.5 kHz channel) +/- 5.0 kHz (25 kHz channel);
8.2.3.2.2   Modulation limiting (800MHz)   +/- 2.5 kHz (12.5 kHz channel); +/- 5.0 kHz (25 kHz channel);
8.2.3.2.3   FM hum & noise   Better than -37 dB
8.2.3.2.4   Audio response   +1, -3dB, 300 to 2500 Hz
8.2.3.2.5   Frequency stability   +/- 1.5 ppm
8.2.3.2.6   Portable radio must deliver a minimum of 2.5 Watts RF power to the antenna port in the 700 MHz band.
8.2.3.2.7   Portable radio must deliver a minimum of 3 Watts RF power to the antenna port in the 800 MHz band.
8.2.3.2.8   Offeror must specify the maximum RF output power as defined by Section 3.2.1 of TIA-102.CCAB-A.
8.2.3.2.9   Offeror must specify the allowable range that the RF output power may be adjusted to while still meeting or exceeding the recommendations specified in TIA-102.CCAB-A.
8.2.3.2.10   Portable radio must be user selectable between high and low transmit power settings.
8.2.3.2.11   The high low transmit power select feature must be enabled disabled during radio programming.

8.2.3.3 Receiver Specifications

8.2.3.3.1   Sensitivity (digital)   0.25 µv (-119 dBm) 5% BER

8.2.3.3.1.1 Preferably should exceed Sensitivity (digital) of 0.25 µv (-119 dBm) 5% BER

8.2.3.3.2   Inter modulation rejection   -70 dB (TIA/EIA 102)

8.2.3.3.2.1 Preferably should exceed Inter modulation rejection of   -70 dB (TIA/EIA 102)

8.2.3.3.3   Adjacent channel selectivity   -60 dB (TIA/EIA 102)

8.2.3.3.3.1 Preferably should exceed adjacent channel selectivity of -60 dB (TIA/EIA 102)

8.2.3.3.4   Spurious response rejection   -70 dB

8.2.3.3.4.1 Preferably should exceed spurious response rejection of -70 dB

8.2.3.3.5   Audio distortion at rated audio   Better than 3% (500 milliwatts)
8.2.3.3.6   Offerors must specify the signal level at the antenna port required to achieve a BER of 2.0% in a fading environment.

8.2.4   Mobile Radio RF Specifications must meet the following:

8.2.4.1 General

8.2.4.1.1	Frequency range	768-776, 798-806, 806-824 and 851-869 MHz
8.2.4.1.2	Channel spacing (700)	12.5 kHz and 25 kHz
8.2.4.1.3	Channel spacing (800)	12.5 kHz and 25 kHz
8.2.4.1.4	Operating temperature range	-30°C to +60°C

8.2.4.2 Transmitter Specifications

8.2.4.2.1	Transmit power	Programmable to 30 watts
8.2.4.2.2	Modulation limiting (700)	+/- 2.5 kHz (12.5 kHz channel); +/- 5.0 kHz (25 kHz channel)
8.2.4.2.3	Modulation limiting (800)	+/- 2.5 kHz (12.5 kHz channel); +/- 5.0 kHz (25 kHz channel)
8.2.4.2.4	FM hum & noise	Better than -37 dB
8.2.4.2.5	Audio response	+1, -3 dB, 300 to 2500 Hz
8.2.4.2.6	Frequency stability	+/- 1.5 ppm

8.2.4.2.7   Offeror must specify the maximum RF output power as defined by Section 3.2.1 of TIA-102.CCAB.

8.2.4.2.8   Offeror must specify the allowable range that the RF output power may be adjusted to while still meeting or exceeding the recommendations specified in TIA-102.CCAB.

8.2.4.2.9   Mobile radio transmit power must be adjustable in software as a part of the radio profile.

8.2.4.3 Receiver Specifications

8.2.4.3.1	Sensitivity (digital)	0.25 µv (-119 dBm) 5% BER
8.2.4.3.1.1	Preferably should exceed sensitivity (digital)	of 0.25 µv (-119 dBm) 5% BER
8.2.4.3.2	Inter modulation rejection	-75 dB (TIA/EIA 102)
8.2.4.3.2.1	Preferably should exceed Inter modulation rejection of	-75 dB (TIA/EIA 102)
8.2.4.3.3	Adjacent channel selectivity	-60 dB (TIA/EIA 102)
8.2.4.3.3.1	Preferably should exceed adjacent channel selectivity of -60 dB (TIA/EIA 102)	
8.2.4.3.4	Spurious response rejection	-80 dB
8.2.4.3.4.1	Preferably should exceed spurious response rejection of -80 dB	
8.2.4.3.5	Audio distortion at rated audio	Better than 3% (60% modulation 1 kHz)

8.2.4.3.6   Offerors must specify the signal level at the antenna port required to achieve a BER of 2.0% in a fading environment.

8.3   406.1-430 MHz and 450-470 MHz (UHF) Band Specific SU Requirements

8.3.1   Standards

8.3.1.1 Radio equipment must conform to the requirements defined in SRSP-501. (UHF)

8.3.2   Regulatory Band Requirement

8.3.2.1 Radio equipment must be programmable with frequencies in the range of 406.1-
430 MHz and 450-470 MHz and the user must be able to select assignable
channels within that range.

8.3.3   Portable Radio RF Specifications must meet the following:

8.3.3.1 General

8.3.3.1.1	Frequency range	406.1 to 430 MHz to 450 to 470 MHz
8.3.3.1.2	Channel spacing	12.5 kHz and 25 kHz
8.3.3.1.3	Operating temperature range	-30°C to +60°C

8.3.3.2 Transmitter Specifications

8.3.3.2.1	Modulation limiting	+/- 2.5 kHz (12.5 kHz channel); +/- 5.0 kHz (25 kHz channel)
8.3.3.2.2	FM hum & noise	Better than -34 dB
8.3.3.2.3	Audio response	+1, -3dB, 300 to 2500 Hz
8.3.3.2.4	Frequency stability	+/- 2.0 ppm

8.3.3.2.5 Portable radio must deliver a minimum of 4 Watts RF power to the antenna port.

8.3.3.2.6 Offeror must specify the maximum RF output power as defined by Section 3.2.1 of TIA-
102.CCAB-A.

8.3.3.2.7 Offeror must specify the allowable range that the RF output power may be adjusted to
while still meeting or exceeding the recommendations specified in TIA-102.CCAB-A.

8.3.3.2.8 Portable radio must be user selectable between high and low transmit power settings.

8.3.3.2.9 The high low transmit power select feature must be enabled disabled during radio
programming.

8.3.3.3 Receiver Specifications

8.3.3.3.1	Sensitivity (digital)	0.25 μv (-119 dBm) 5% BER
8.3.3.3.1.1	Preferably should exceed sensitivity (digital) of	0.25 μv (-119 dBm) 5% BER
8.3.3.3.2	Inter modulation rejection	-70 dB (TIA/EIA 102)
8.3.3.3.2.1	Preferably should exceed Inter modulation rejection of	-70 dB (TIA/EIA 102)
8.3.3.3.3	Adjacent channel selectivity	-60 dB (TIA/EIA 102)
8.3.3.3.3.1	Preferably should exceed adjacent channel selectivity of	-60 dB (TIA/EIA 102)
8.3.3.3.4	Spurious response rejection	-70 dB
8.3.3.3.4.1	Preferably should exceed spurious response rejection of	-70 dB
8.3.3.3.5	Audio distortion at rated audio	Better than 3% (500 milliwatts)

8.3.3.3.6 Offerors must specify the signal level at the antenna port required to achieve a BER of
2.0% in a fading environment.

8.3.4   Mobile radio RF Specifications must meet the following:

8.3.4.1 General

8.3.4.1.1	Frequency range	406.1 to 430 MHz to 450 to 470 MHz
8.3.4.1.2	Channel spacing	12.5 kHz and 25 kHz
8.3.4.1.3	Operating temperature range	-30°C to +60°C

8.3.4.2 Transmitter Specifications

8.3.4.2.1	Transmit power	Programmable to 30 watts
8.3.4.2.2	Modulation limiting	+/- 2.5 kHz (12.5 kHz channel) +/- 5.0 kHz (25 kHz channel)
8.3.4.2.3	FM hum & noise	Better than -34 dB
8.3.4.2.4	Audio response	+1 -3dB, 300 to 2500 Hz
8.3.4.2.5	Frequency stability	+/- 2.0 ppm

8.3.4.2.6   Offeror must specify the maximum RF output power as defined by Section 3.2.1 of TIA-102.CCAB.

8.3.4.2.7   Offeror must specify the allowable range that the RF output power may be adjusted to while still meeting or exceeding the recommendations specified in TIA-102.CCAB.

8.3.4.2.8   Mobile radio transmit power must be adjustable in software as a part of the radio profile.

8.3.4.3 Receiver Specifications

8.3.4.3.1	Sensitivity (digital)	0.25 µv (-119 dBm) 5% BER
8.3.4.3.1.1	Preferably should exceed sensitivity (digital) of	0.25 µv (-119 dBm) 5% BER
8.3.4.3.2	Inter modulation rejection	-75 dB (TIA/EIA 102)
8.3.4.3.2.1	Preferably should exceed Inter modulation rejection of	-75 dB (TIA/EIA 102)
8.3.4.3.3	Adjacent channel selectivity	-60 dB (TIA/EIA 102)
8.3.4.3.3.1	Preferably should exceed adjacent channel selectivity of -60 dB (TIA/EIA 102)	
8.3.4.3.4	Spurious response rejection	-80 dB
8.3.4.3.4.1	Preferably should exceed spurious response rejection of -80 dB	
8.3.4.3.5	Audio distortion at rated audio	Better than 3% (60% modulation 1 kHz)

8.3.4.3.6   Offerors must specify the signal level at the antenna port required to achieve a BER of 2.0% in a fading environment.

8.4   138-144 MHz and 148-174 MHz (VHF) Band Specific SU Requirements

8.4.1   Standards

8.4.1.1 Radio equipment must conform to the requirements defined in SRSP-500. (VHF)

8.4.2   Regulatory Band Requirement

8.4.2.1 Radio equipment must be programmable with frequencies in the range of 138-144 MHz and 148-174 MHz and the user must be able to select assignable channels within that range.

8.4.3   Portable Radio RF Specifications must meet the following:

8.4.3.1 General

8.4.3.1.1	Frequency range	138 to 144 MHz and 148 -174 MHz
8.4.3.1.2	Channel spacing	12.5 kHz and 25 kHz
8.4.3.1.3	Operating temperature range	-30°C to +60°C

8.4.3.2 Transmitter Specifications

8.4.3.2.1	Modulation limiting	+/- 2.5 kHz (12.5 kHz channel); +/- 5.0 kHz (25 kHz channel)
8.4.3.2.2	FM hum & noise	Better than -34 dB
8.4.3.2.3	Audio response	+1 -3dB, 300 to 2500 Hz
8.4.3.2.4	Frequency stability	+/- 2.5 ppm

8.4.3.2.5 Portable radio must deliver a minimum of 5 Watts RF power to the antenna port.

8.4.3.2.6 Offeror must specify the maximum RF output power as defined by Section 3.2.1 of TIA-102.CCAB-A.

8.4.3.2.7 Offeror must specify the allowable range that the RF output power may be adjusted to while still meeting or exceeding the recommendations specified in TIA-102.CCAB-A.

8.4.3.2.8 Portable radio must be user selectable between high and low transmit power settings.

8.4.3.2.9 The high low transmit power select feature must be enabled disabled during radio programming.

8.4.3.3 Receiver Specifications

8.4.3.3.1	Sensitivity (digital)	0.22 µv (-120 dBm) 5% BER
8.4.3.3.1.1	Preferably should exceed sensitivity (digital) of	0.22 µv (-120 dBm) 5% BER
8.4.3.3.2	Inter modulation rejection	-70 dB (TIA/EIA 102)
8.4.3.3.2.1	Preferably should exceed Inter modulation rejection of	-70 dB (TIA/EIA 102)
8.4.3.3.3	Adjacent channel selectivity	-60 dB (TIA/EIA 102)
8.4.3.3.3.1	Preferably should exceed adjacent channel selectivity of -60 dB (TIA/EIA 102)	
8.4.3.3.4	Spurious response rejection	-70 dB
8.4.3.3.4.1	Preferably should exceed spurious response rejection of -70 dB	
8.4.3.3.5	Audio distortion at rated audio	Better than 3% (500 milliwatts)

8.4.3.3.6 Offerors must specify the signal level at the antenna port required to achieve a BER of 2.0% in a fading environment.

8.4.4   Mobile Radio RF Specifications must meet the following:

8.4.4.1 General

8.4.4.1.1	Frequency range	138 to 144 MHz and 148 -174 MHz
8.4.4.1.2	Channel spacing	12.5 kHz and 25 kHz
8.4.4.1.3	Operating temperature range	-30°C to +60°C

8.4.4.2 Transmitter Specifications

8.4.4.2.1	Transmit power	Programmable to 30 watts
8.4.4.2.2	Modulation limiting	+/- 2.5 kHz (12.5 kHz channel) +/- 5.0 kHz (25 kHz channel)
8.4.4.2.3	FM hum & noise	Better than -34 dB
8.4.4.2.4	Audio response	+1 -3dB, 300 to 2500 Hz
8.4.4.2.5	Frequency stability	+/- 2.5 ppm

8.4.4.2.6   Offeror must specify the maximum RF output power as defined by Section 3.2.1 of TIA-102.CCAB.

8.4.4.2.7   Offeror must specify the allowable range that the RF output power may be adjusted to while still meeting or exceeding the recommendations specified in TIA-102.CCAB.

8.4.4.2.8   Mobile radio transmit power must be adjustable in software as a part of the radio profile.

8.4.4.3 Receiver Specifications

8.4.4.3.1	Sensitivity (digital)	0.25 µv (-119 dBm) 5% BER
8.4.4.3.1.1	Preferably should exceed sensitivity (digital) of	0.25 µv (-119 dBm) 5% BER
8.4.4.3.2	Inter modulation rejection	-75 dB (TIA/EIA 102)
8.4.4.3.2.1	Preferably should exceed Inter modulation rejection of	-75 dB (TIA/EIA 102)
8.4.4.3.3	Adjacent channel selectivity	-60 dB (TIA/EIA 102)
8.4.4.3.3.1	Preferably should exceed adjacent channel selectivity of -60 dB (TIA/EIA 102)	
8.4.4.3.4	Spurious response rejection	-80 dB
8.4.4.3.4.1	Preferably should exceed spurious response rejection of -80 dB	
8.4.4.3.5	Audio distortion at rated audio	Better than 3% (60% modulation 1 kHz)

8.4.4.3.6   Offerors must specify the signal level at the antenna port required to achieve a BER of 2.0% in a fading environment.

9   P25 Digital Vehicular Repeater System Specific Requirements

9.1   General

9.1.1   Offeror must provide a P25 Digital Vehicular Repeater System(s) (DVRS) that supports RF communications between the DVRS portable and Digital Vehicle Repeater (DVR) equipment in the VHF band.

9.1.2   Offeror must provide a P25 DVRS(s) that supports RF communications between the DVRS portable and DVR equipment in the UHF band.

9.1.3   Offeror must provide a P25 DVRS(s) that supports RF communications between the DVRS portable and DVR equipment in the 700/800MHz band.

9.1.4   Offeror must provide a P25 DVRS(s) that supports RF communications between the radio network and DVR equipment in the VHF band.

9.1.5   Offeror must provide a P25 DVRS(s) that supports RF communications between the radio network and DVR equipment in the UHF band.

9.1.6   Offeror must provide a P25 DVRS(s) that supports RF communications between the radio network and DVR equipment in the 700/800MHz band.

9.1.7   The DVR System portable radio(s) must comply with Offeror's specifications in Sections 4, 5, 6, 8 and 9 of this SOR.

9.1.8   The DVR System mobile radio(s) must comply with Offeror's specifications to Sections 4, 5, 7, 8 and 9 of this SOR.

9.1.9   DVRS Digital Vehicular Repeater must meet environmental specifications as specified in the Mobile Radio environmental specifications section 7.2 of this SOR.

9.1.10   The DVRS Digital Vehicular Repeater must meet the power specifications specified in section 7.10 of this SOR.

9.1.11   Offeror must specify the following for the DVRS Digital Vehicular Repeater equipment:

a)   Make and Model number;

b)   Manufacturer specification sheet;

c)   Innovation, Science and Economic Development Canada type approval number;

d)   Dimensions; and

e)   Weight.

9.1.12   The physical inter-connection of the Digital Vehicular Repeater and the DVRS Mobile Radio must allow side-by-side or top-bottom in-car installation.

9.1.13   Interference Mitigation

9.1.13.1 The Digital Vehicular Repeater System must use an automatic interference mitigation mechanism preventing more than one DVR transmitting on the same frequency, at the same time, within the same geographical location.

9.1.13.2 Automatic interference mitigation mechanism must operate continuously while the DVRS DVR is in operation.

9.1.13.3 Offeror must describe in detail, how the DVRS automatic mitigation mechanism functions.

9.1.13.4 Offeror must state all restrictions with specific examples where the automatic mitigation mechanism might not function as designed. (i.e. if more than 6 DVRs equipped cruisers show on location, the mitigation mechanism will not be able to function as it is limited to 6 DVRs maximum.)

9.1.14 Offeror must provide the necessary RF filtering equipment for in-band and cross-band operation(s) in all band(s) supported by their DVRS solution(s).

9.2 Digital Vehicular Repeater System Functionality

9.2.1 The DVRS must support P25 voice operation on conventional and trunked networks.

9.2.2 The DVRS must support P25 data operation on Trunked networks.

9.2.3 The DVRS must support P25 AES 256 bit encrypted voice traffic.

9.2.4 The DVRS must support P25 encryption pass-through such that there are no decryption points between the DVRS mobile and DVRS portable.

9.2.5 The DVRS must support Emergency Request To Talk as defined in Appendix A of this SOR. This includes passing the Emergency status message (**EMRG_ALRM_REQ**) and the Unit ID of the DVRS portable that generated the emergency condition to the radio network.

9.2.6 The DVRS must support Request To Talk (RTT) as defined in Appendix A of this SOR. This includes passing the status update request (**STS_UPDT_REQ**) status message and the Unit ID of the DVRS portable that generated the RTT to the radio network.

9.2.7 The DVRS must support DVRS portable radio registration/deregistration to radio network.

9.2.8 Preferably, the DVRS should support DVRS portable radio automatic registration/deregistration to radio network, upon selection of DVRS enabled talk group on DVRS portable.

9.2.9 The DVRS must support DVRS portable radio Inbound and Outbound Group Calls.

9.2.10 The DVRS must pass onto the radio network, DVRS's portable radio Unit ID on Push To Talk.

9.2.11   The DVRS must support radio unit monitor operation of DVRS portable.

9.2.12   Preferably, the DVRS should pass Fail-soft, Out Of Range and Site Trunking System
           Status Broadcast messages to DVRS portable radio when operating via DVRS.

9.2.13   Preferably, the DVRS portable radio should receive an indication from the DVRS DVR
           when that one is operating in "standalone" mode (no connection to Radio network).

9.2.14   The DVRS Portable radio must generate talk permit tones when operating via DVRS on a
           trunking radio network.

9.2.15   The DVRS Portable radio must receive Radio Check and Radio Inhibit/Uninhibit
           commands generated by the radio network when operating via DVRS.

9.2.16   Preferably, the DVRS should pass P25 OTAR traffic between the portable and radio
           network.

9.2.17   The DVRS must pass P25 TIA-102.BAJC Location Services Tier 2 GPS traffic between the
           DVRS portable and radio network.

9.2.18   The DVRS DVR must support remote activation via an external physical trigger such as a
           door switch.

9.2.19   The DVRS DVR must support remote activation via DVRS mobile radio control head.

9.2.20   Offeror must indicate any feature differences between a radio system connected
           portable radio versus a DVRS DVR radio system connected DVRS portable radio.

9.2.21   Offeror must identify all proprietary features for the DVRS portable radio DVRS DVR
           solution.

9.2.22   Offeror must describe their DVRS DVR operation if the DVRS mobile radio loses radio
           system connectivity.

9.2.23   Offeror must indicate if DVRS supports pre-emptive emergency voice transmission by a
           DVRS portable, while the DVRS DVR is actively in the process of relaying system audio
           from the DVRS mobile radio to connected DVRS portable radios.

9.2.24   If the DVRS support pre-emptive emergency voice transmission, Offeror must indicate
           any operational conditions that may delay the priority DVRS portable from transmitting
           into the radio system.

9.2.25   Offeror must indicate the required actions to transition from direct system operation to
           DVRS operation by the user of the DVRS portable radio.

Appendix A - Request To Talk Baseline Requirements

A.1   Physical

A.1.1   Each model of End User radio equipment (Subscriber Unit) for use by the RCMP must have a separate, readily accessible, single press button for the purpose of initiating a RTT as per signaling requirements.

A.1.2   The RTT button must be functional while the keypad is locked (portable radio only).

A.1.3   Speaker Mic accessories for portable Subscriber Unit (SU) for use by the RCMP must have a dedicated button for initiation of a RTT.

A.1.4   Each model of End User radio equipment (SU) for use by the RCMP must have a separate, readily accessible, single press button for the purpose of initiating a ERTT as per signaling requirements.

A.1.5   The ERTT button must be functional while the keypad is locked (portable radio only).

A.1.6   The ERTT button must have a colour different from other buttons on the unit that is suggestive of an emergency (e.g. Red or Orange).

A.1.7   The ERTT button must be indented or otherwise positioned to help prevent inadvertent activation of the feature.

A.1.8   The ERTT button must be pressed for a configurable duration between 0.3 and 0.75 seconds prior to activation in order to prevent inadvertent activation.

A.1.9   The duration referenced in (A.1.8) must be a programmable value in the radio service software.

A.1.10 Speaker Mic accessories for portable SU for use by the RCMP must have a dedicated button for initiation of a ERTT.

A.2   RTT Signaling

A.2.1   The RTT function must be implemented using the status control message (**STS_UPDT_REQ**) as defined in the most current version of Trunking Control Channel Messages, TIA-102.AABC-C.

A.3   ERTT Signaling

A.3.1   The Emergency RTT function must be implemented using the status control message (**EMRG_ALRM_REQ**) as defined in the most current version of Trunking Control Channel Messages, TIA-102.AABC-C.

A.4   RTT Activation

A.4.1   Upon depression of the RTT button, the SU must send a STS_UPDT_REQ according to TIA-102.AABD-A Random Access Procedures with the values as outlined below:

Status value: $0100 (hex) – must be allocated to represent the RTT function

The 24-bit source address: the calling SU's Unit ID

The 24-bit target address: $FF FFFC (hex), the Console Subsystem Address

A.4.2   Upon depression of the RTT button, the SU must start timer T(ack) awaiting an **ACK_RSP_FNE** from the console sub-system.

A.5   ERTT Activation

A.5.1   Upon depression of the Emergency ERTT button, the SU must send a status control message (**EMRG_ALRM_REQ**) as defined in the most current version of Trunking Control Channel Messages, TIA-102.AABC-C, with the values as outlined below:

The 24-bit source address: the calling SU's Unit ID

A.5.2   Upon depression of the ERTT button, the SU must start timer T_{ack} while awaiting an **ACK_RSP_FNE** from the console sub-system.

A.5.3   Until the emergency state in the radio is cleared, all operations by the subscriber unit must have the emergency bit set to 1

A.6   Emergency Audio Talk Path

A.6.1   An ERTT button press must initiate a voice call and provide an inbound audio talk path to the Console Sub-System from the subscriber unit for a period of approximately 10 seconds. This must allow the calling party to talk to the Console immediately after the System has established the ERTT.

A.7   Automatic Retries

A.7.1   The number of re-try attempts for RTT transmission must be set to four (4) through the radio service software not to exceed maximum value as specified in P25 specification (N_retry).

A.7.2   If the SU does not receive a system acknowledgement that the ERTT was received by the console sub-system equipment, it must continue to re-send the ERTT for a pre-determined length of time or pre-determined number of attempts, up to the maximum allowed under P25 specifications.

A.7.3   The length of time or pre-determined number of attempts for ERTT re-transmission must be adjustable through the radio service software, between the boundaries set under P25 specifications.

A.8   Retry Quieting

A.8.1   Upon receipt of a System Acknowledgement response from the System Default Address as defined below, the SU must stop sending retries.

Message type: ACK_RSP_FNE with the values as outlined below:

Service Type: %011000 (binary), the opcode for the STS_UPDT

AIV: 1

EX: 0

Source Address: $FF FFFD (Hex), System Default as per TIA-102.AABD-A, Annex A.5.2.2

Target Address: the calling SU's Unit ID

A.9   Positive Acknowledgement

A.9.1   Upon receipt of a System Acknowledgement response from the Console Sub-System address as defined below, the SU must generate an audible tone indicating that the RTT was successfully received by the Console Sub-System.

Message type: **ACK_RSP_FNE** with values set as outlined below:

Service Type: %011000 (binary), the opcode for the **STS_UPDT**

AIV: 1

EX: 0

Source Address: $FF FFFC (Hex), Console Sub-System address as per TIA- 102.AABD-A, Annex A 5.2.2

Target Address: the calling SU's Unit ID

A.9.2   Upon receipt of a System Acknowledgement response from the Console Sub-System address, the SU must stop the T(ack) timer.

A.10 Negative Acknowledgement

A.10.1 Upon receipt of a **DENY_RSP** response message from the system as defined below or upon the expiration of the SU's T(ack) timer, the SU must generate an audible tone indicating that the RTT was unsuccessful.

Message type: **DENY_RSP** with values set as outlined below:

Service Type: %011000 (binary), the opcode for the STS_UPDT

AIV: 0

EX: 0

Target Address: the calling SU's Unit ID

A.10.2 The negative acknowledgement audible tone must be different than the audible tone used for a positive RTT acknowledgement.

A.11 Return to Normal Operations

A.11.1 The SU must revert back to normal operation after receiving either a positive or negative acknowledgement.