NCIA/ACQ/2023/07341

RFQ RADIO EQUIPMENT FOR THE SSSB MOU

STATEMENT OF WORK (SOW)

1. Scope of Work

Scope of this document is to provide the requirements for the procurement of the following equipment, as authorized by the SSSB MoU Support Board:

(1) Qty 1, 1 kW HF Transceiver
(2) Qty 2, 150 W HF Transceiver
(3) Qty 2, 100 W UHF EPM Transceiver

1.1. Optional Scope of Work

Optional scope, is also included in this SoW, which could be executed within 12 months from the initial contract. The addional scope is detailed in Section 6 for:

(4) Additional Radio Equipment
(5) Radio Equipment Training

2. COMMON REQUIREMENTS

[R1] Delivery time 8 months
[R2] All equipment shall be rack mountable
[R3] User Manual
[R4] Installation and Maintenance Manual
[R5] Remote Control ICD Manual
[R6] Connectors kit
[R7] Link 22 interoperability certification[1].

3. HF TRANSCEIVER 1 kW

[R8] 1.5 to 30 MHz
[R9] RF output power: 1000 W nominal PEP and mean, into a 50-ohm impedance unbalanced to ground and with VSWR up to 1.3:1.
[R10] Power steps: 1/1, 1/2, 1/4 and 1/8 of maximum output power, or equivalent.
[R11] Selective level control for power amplifier
[R12] 40 dB RF selection in transmission and reception
[R13] ALE-2G/3G/4G ready
[R14] Wide Band ready
[R15] Mode of operation:
a. AM (A3E, R3E, H3E and J3E classes of emission3) including Upper sideband (USB) and lower sideband (LSB) simultaneously or independently
b. CW (A1A class of emission)

[1] Interoperability certification should provide evidence of successful operations/test/use of HF and UHF radios, in the different Link 22 modes of operations including Link 22 UHF EPM, with other vendors equivalent radio equipment.

c. Link 11 capable (STANAG 5511, MIL-STD-188-203A)
d. Link 22 Fixed Frequency capable (STANAG 5522, STANAG 4539)

[R16] Voice over IP
[R17] EUROCAE ED-137B/C
[R18] Duty cycle: 100% under all service conditions
[R19] Time delay (max): 3.5 ms (for any single frequency over the range 500 ÷ 3.050 Hz) (design objective 2.5 ms).
[R20] Group (or differential) delay (max): 500 µs (within the frequency range 815 ÷ 3.050 Hz).
[R21] Attack-time delay (max): 7 ms (to reach 90 % of rated power output).
[R22] Release-time delay (max):10 ms.
[R23] Built-In Test (BIT)
[R24] 240 VAC, internal or external Power Supply
[R25] Interconnection cables
[R26] Embedded Display and control panel
[R27] Remote control via serial and IP

4. HF TRANSCEIVER 150 W

[R28] 1.5 to 30 MHz
[R29] RF output power: 150 W nominal PEP and mean, into a 50-ohm impedance unbalanced to ground and with VSWR up to 1.3:1.
[R30] Power steps: 1/1, 1/2 and 1/4 of maximum output power, or equivalent.
[R31] Selective level control for power amplifier
[R32] 40 dB RF selection in transmission and reception
[R33] ALE-2G/3G/4G ready
[R34] Wide Band ready
[R35] Mode of operation:
a. AM (A3E, R3E, H3E and J3E classes of emission3) including Upper sideband (USB) and lower sideband (LSB) simultaneously or independently
b. CW (A1A class of emission)
c. Link 11 capable (STANAG 5511, MIL-STD-188-203A)
d. Link 22 Fixed Frequency capable (STANAG 5522, STANAG 4539)

[R36] Voice over IP
[R37] EUROCAE ED-137B/C
[R38] Duty cycle: 100% under all service conditions
[R39] Time delay (max): 3.5 ms (for any single frequency over the range 500 ÷ 3.050 Hz) (design objective 2.5 ms).
[R40] Group (or differential) delay (max): 500 µs (within the frequency range 815 ÷ 3.050 Hz).
[R41] Attack-time delay (max): 7 ms (to reach 90 % of rated power output).
[R42] Release-time delay (max): 10 ms.
[R43] Built-In Test (BIT)
[R44] 240 VAC, internal or external Power Supply
[R45] Interconnection cables, in case the transceiver is provided in multiple modules
[R46] Embedded Display and control panel
[R47] Remote control via serial and IP

5. UHF EPM TRANSCEIVER 100 W

[R48] 225 to 400 MHz
[R49] 30W AM/100W FM
[R50] SATURN/HAVE QUICK II
[R51] with local control unit, OCXO
[R52] Modes of operation:
- a. FM (F3E class of emission) inclusive of Link-11 data as per STANAG 5511.
- b. AM (A3E, classes of emission7).
- c. Link 11 capable (STANAG 5511, MIL-STD-188-203A)
- d. Link 22 Fixed Frequency capable (STANAG 5522, STANAG 4502)
- e. Link 22 EPM capable (STANAG 5522, STANAG 4372)

[R53] Voice over IP
[R54] EUROCAE ED-137B/C
[R55] Built-In Test (BIT)
[R56] 240 VAC, internal or external Power Supply
[R57] Interconnection cables, in case the transceiver is provided in multiple modules
[R58] Embedded Display and control panel
[R59] Remote control via serial and IP

6. OPTIONS

6.1. Radio equipment

[O1] Qty 6 (six) HF TRANSCEIVER 1 kW as defined in Section 3
[O2] Qty 2 (two) Rack (for 2x 1kW, empty)

6.2. Training

[O3] Qty 1 (one) <u>Training for HF TRANSCEIVER 1 kW</u>
Purpose of the training is to acquire knowledge to operate and maintain/troubleshoot the radio equipment.
The training shall be provided in two parts as follow:

[R60] PART-1: Operators training
- [R61] Radio equipment operations
- [R62] Radio equipment interfaces

[R63] PART-2: Level 0/Basic Mainteiners training
- [R64] Radio equipment verification for operations
- [R65] Care and Maintenance procedures
- [R66] Fault finding / Troubleshooting
- [R67] Modules removal
- [R68] Modules re-insertion

[R69] Duration: 3 days
[R70] Participants: 6
[R71] Location: Italy, either Marsala or Siracusa

[R72] Classification: NATO Unclassified
[R73] Language: English
[R74] Security Clearance: NATO Secret
[R75] Site Access: Visits to Training Location by Contractor personnel require advance authorisation. The completed Request for Visit (RFV) format (Annex B herein) and instructions shall be used to request visit authorisation. Reference to the Contract shall be included in all visit requests. All RFV shall be submitted through NCI Agency Liaison.
[R76] Dates: The Contractor will be notified minimuim 4 weeks before the course is planned to occur
[R77] Training documentation: in hard and soft copy
  [R78] Syllabus
  [R79] Lessons modules
  [R80] Maintenance Manual / Checklist for Mainteners
  [R81] Certificate of attendance