

GOVERNMENT OF TAMILNADU
TAMIL NADU FIRE & RESCUE SERVICES DEPARTMENT
OPEN TENDER : 1 OF 2016
GROUP : I- Walkie Talkie and Wireless Sets
TOP SHEET

Tenders are invited from the manufacturer or an authorized distributor/dealer of the manufacturer for supply of the following items as per the specification given in the tender document:-

SI.No.	Name of the item to be supplied	Quantity	EMD to be along with tender
1.	VHF Digital Handheld set with accessories (Walkie Talkie sets – GP 328 models or its equivalent or high standards)	50	Rs.32,000/-
2	VHF Digital Mobile set with accessories (Mobile Wireless sets – GM 338 models or its equivalent)	60	
3	VHF Digital Static set with accessories Static wireless sets – GM 338 models or its equivalent)	40	
4.	VHF Digital Repeater with accessories Repeater with accessories	2	

Other details:

1.	Address for Communication	Office of the Director, Fire & Rescue Services, No.17 Rukmani Lakshmipathy Salai, Egmore, Chennai 600 008.
2.	Cost of Tender Document	Rs.500/- only (inclusive of ST & SC) Additional Rs.100/- if required by Post.

Note: Alternatively the tender documents can be accessed from <http://www.tnfrs.tn.nic.in> and the same can be down loaded free of cost from the web site. The vendors who have downloaded the tender documents from the departmental website must intimate the same through the following email address

asupt.tnfrs@gov.in so that any changes can be intimated. Otherwise, it will be considered that the vendor is doing it at his/her own risk.		
3.	Earnest Money Deposit – Mode of Payment.	EMD amount as mentioned above may be furnished as Demand Draft in favour of the Director, Fire & Rescue Services Department, Chennai or specified small savings instruments or irrevocable bank guarantee.
4.	Last date and time for submission of the tender	07.04.2016 at 14.00 hours.
5.	Date, Time and Place of Opening of the tender.	07.04.2016 at 14.30 hours at the address mentioned above
6.	Specifications	Furnished in the tender document. Questionnaires have been made as a part of the specification. Answers to be furnished by the tenderer about their offers.
7.	Intimation of changes	Addendum or changes/amendments if any proposed to be issued will be put up in the above web-site. Hence, it is the responsibility of the tenderer to go through the website before submission of their tender.
8.	Type of Tender	TWO COVER SYSTEM (a) Technical Bid with EMD (b) Price Bid
9.	Name and address of the party to whom the tender documents sold in person or by post.	

Signature of the Tenderer/s with Date and Seal

Signature of the Tender inviting authority (not necessary if downloaded from the website)

Note : This Tender form should be signed by the Tenderer in each page and to be attached with their tender document. Price bid should be furnished in separate cover for each item.

CHECK LIST FOR THE TENDERERS IN FURNISHING THE TENDER DOCUMENT

1. Sign the tender form in each page and attach the same with your tender document.
2. Attach EMD as described in the tender form alongwith the Technical Bid in a separate sealed cover which may be named as “**Envelope – A**”. If exemption from EMD is sought for, **proof of certificate** given by the appropriate authority duly notifying the exemption available from payment for EMD for the items offered should be produced.
3. Attach questionnaire form given in the tender form duly filled and signed along with your tender document in “Envelope – A”.
4. Furnish the Sales Tax Verification details in the format prescribed in the Tender form in “Envelope-A” as mentioned in the tender document.
5. Furnish sample in respect of each item offered, so as to reach this Office along with tender on 20.04.2016 or directly produce the sample for verification before the Tender Scrutiny Committee through a representative on the intimated date and time and venue.
6. Attach price bids only in the prescribed format in the tender document in a separate sealed cover as Envelope- B.
7. The following address must be written on the **OUTER ENVELOPE:**
Administrative P.A to Director,
Office of the Director,
Fire and Rescue Services Department,
No.17 Rukmani Lakshmi pathy Salai,
Egmore, Chennai 600 008.
Tamil Nadu, India.

This cover shall be superscribed “**TENDER FOR GROUP I – WALKIE TALKIE AND WIRELESS SETS**”

Specifications for supply of Wireless sets, Repeaters and Accessories

Item No.1 VHF Digital Handheld set with accessories	
PARAMETERS	REQUIREMENTS
GENERAL	
Type	VHF Digital Handheld synthesised Transreceiver
Channel Capacity	16 or above
Frequency	136-174 MHz
Power Supply	7.5 V (Nominal)
Operating Temperature	-30°~ +60° C
Type of Operation:	Simplex / semi duplex Press to talk with built in speaker
FCC Description	ABZ99FT3088
IC Description	109AB-99FT3088
RECEIVER	
Frequencies	136-174 MHz
Channel Spacing	12.5/25 kHz
Frequency Stability	± 0.5 ppm
Analog Sensitivity (12dB SINAD)	0.3uV
Typical	0.22uV (typical)
Digital Sensitivity	0.25 uV (0.19 uV typical)
Intermodulation (TIA603D)	70 dB
Adjacent Channel Selectivity (TIA603A)-1T	60dB @ 12.5kHz / 70dB @ 25 kHz
Adjacent Channel Selectivity (TIA603D)-2T	45dB @ 12.5kHz / 70dB @ 25 kHz
Spurious Rejection (TIA603D)	70 dB
Rated Audio	0.5W
Audio Distortion @ Rated Audio	5%
	3% (typical)
Hum and Noise	‘-40dB @ 12.5kHz / -45dB @ 25 kHz
Audio Response	TIA603D
Conducted Spurious Emission (TIA603D)	-57 dBm
TRANSMITTER	

Frequencies	136-174 MHz
Channel Spacing	12.5/25kHz
Frequency Stability	± 0.5 ppm
Low Power Output	1W
High Power Output	5W
Modulation Limiting	± 2.5 kHz @ 12.5 kHz
	± 5.0 kHz @ 25 kHz

FM Hum and Noise	‘-40 dB@ 12.5 kHz
	‘-45 dB@ 25 kHz
Conducted/Radiated Emission	‘-36 dBm < 1 GHz
	‘-30 dBm > 1 GHz
	60 dB @ 12.5 kHz
Adjacent Channel Power	70 dB @ 25 kHz
Audio Response	TIA603D
Audio Distortion	3%
4FSK Digital Modulation	12.5kHz Data: 7K60F1D & 7K60FXD
	12.5kHz Voice: 7K60F1E & 7K60FXE
	Combination of 12.5 kHz Voice and Data: 7K60F1V
Digital Vocoder Type	AMBE+2™
Digital Protocol	‘-ETSI TS 102 361 -1,-
FEATURES	

Automatic audio enhancement to compensate background noise in Noisy environment so that clear audio output

Capability for Software upgradability to Single Site Trunking

Busy Channel Lock out

Voice Announcement for Channel change and other main notification

Double Voice Channels per simplex Frequency for real TDMA advantage

Radio must be capable to be interrupted by Control room while transmitting.

Over the Air Programming

Trill Enhancement

Acoustic feedback suppressor to eliminate unpleasant “howling” while receiving call while other radios in the same channel

SET ACCESSORIES

Power Source: Ni-Mh 1300 mAh battery along with set

Battery Charger (230 V AC): Suitable Rapid Charger for Charging 1300 mAh Ni-Mh

Antenna: Helical Antenna

Belt clip: To be supplied along with each set.

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature: ‘-30° C / +60° C

Storage Temperature: ‘-40° C / +85° C

Thermal Shock: Per MIL-STD

Humidity: Per MIL-STD

ESD	IEC 61000-4-2 Level
Dust and Water Intrusion	IEC60529 - IP55
Packaging test	MIL-STD 810D and
Field Test :	will be tested in and around Chennai.
Warranty :	3 years for VHF Handheld set & Two year for acces
Dealers Possession License	The participating firm must have valid DPL & copy document

Item no.2 VHF Digital Mobile set with accessories	
SPECIFICATIONS	VHF
GENERAL	
Type	VHF Digital Vehicle Mobile synthesised Transceiver
Channel Capacity	256
Typical RF Output	
Low Power	1-25 W
High Power	25-45 W
Frequency	136-174 MHz
Dimensions (H x W x L)	1.7 x 6.7 x 5.3 in (44 x 169 x 134 mm)
Weight	2.9 lbs (1.3 kg)
Type of Operation:	Simplex / semi duplex
Current Drain	
Standby	0.81 A max
Rx @ Rated Audio	2 A max
Transmit	1-25 W: 11.0 A max / 25-45 W: 14.5 A max
FCC Description	1-25 W: ABZ99FT3090 25-45 W: ABZ99FT3091
IC Description	1-25 W: 109AB-99FT3090 25-45 W: 109AB-99FT3091
RECEIVER	
Frequency	136-174 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 0.5 ppm
Analog Sensitivity (12 dB SINAD)	0.3 uV 0.22 uV (typical)
Digital Sensitivity (5% BER)	0.25 uV 0.19 uV (typical)
Intermodulation (TIA603D)	75 dB
Adjacent Channel Selectivity (TIA603D)	50 dB @ 12.5 kHz 75 dB @ 25 kHz
Spurious Rejection (TIA603D)	75 dB
Rated Audio	4 W (Internal) 7.5 W (External - 8 ohms) 13 W (External - 4 ohms)
Audio Distortion @ Rated Audio	3% (typical)
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz
Audio Response	TIA603D

Conducted Spurious Emissions (TIA603D)	-57 dBm
TRANSMITTER	
Frequency	136-174 MHz
Channel Spacing	12.5 kHz / 20 kHz
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 0.5 ppm
Low Power Output	1-25 W
High Power Output	25-45 W
Modulation Limiting	± 2.5 kHz @ 12.5 kHz
	± 5.0 kHz @ 25 kHz
FM Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Conducted / Radiated Emission	-36 dBm < 1 GHz
	-30 dBm > 1 GHz
Adjacent Channel Power	60 dB @ 12.5 kHz
	70 dB @ 25 kHz
Audio Response	TIA603D
Audio Distortion	3%
FM Modulation	12.5 kHz: 11K0F3E
	25 kHz*: 16K0F3E
4FSK Digital Modulation	12.5 kHz Data: 7K60F1D and 7K60FXD
	12.5 kHz Voice: 7K60F1E and 7K60FXE
	Combination of 12.5 kHz Voice and Data: 7K60F1W
Digital Vocoder Type	AMBE +2™
Digital Protocol	ETSI TS 102 361-1, -2, -3
FEATURES	
Intelligent Audio for Noisy Environment	
Capability for Software upgradability to Single Site Trunking	
Busy Channel Lock out	
Voice Announcement for Channel change notification	
2 Voice Channels per Frequency	
Transmit Interrupt Capability	
Over the Air Programming	
Trill Enhancement	
SET ACCESSORIES	
DTMF Handset with Mic	To be supplied along with each set
Battery cable with fuse	To be supplied along with each set
Mounting Brackets with screws	To be supplied along with each set
ANTENNA(DIAMOND MAKE)	

Type	Mobile Antenna with 5 mtrs cable and suitable Connectors
Gain	3 db Gain or above
Antenna Impedance:	50 Ohms
V.S.W.R.:	Less than 1.5
ENVIRONMENTAL SPECIFICATIONS:	
Operating Temperature	-30°C2 / +60°C
Storage Temperature	-40°C / +85°C
Thermal Shock	Per MIL-STD
Humidity	Per MIL-STD
ESD	IEC 61000-4-2 Level 3
Dust and Water Intrusion	IP54, MIL-STD*
Packaging Test	Per MIL-STD
Field Test :	will be tested in and around Chennai.
Warranty :	3 years for VHF Handheld set & Two year for accessories / As per OEM
Dealers Possession License	The participating firm must have valid DPL & copy must enclosed along with document

Item no. 3 VHF Digital Static set with accessories	
SPECIFICATIONS	VHF
GENERAL	
Type	VHF Digital Static Synthesised Transreceiver
Channel Capacity	256
Typical RF Output	
Low Power	1-25 W
High Power	25-45 W
Frequency	136-174 MHz
Dimensions (H x W x L)	1.7 x 6.7 x 5.3 in (44 x 169 x 134 mm)
Weight	2.9 lbs (1.3 kg)
Type of Operation:	Simplex / semi duplex
Current Drain	
Standby	0.81 A max
Rx @ Rated Audio	2 A max
Transmit	1-25 W: 11.0 A max / 25-45 W: 14.5 A max
FCC Description	1-25 W: ABZ99FT3090 25-45 W: ABZ99FT3091
IC Description	1-25 W: 109AB-99FT3090 25-45 W: 109AB-99FT3091
RECEIVER	
Frequency	136-174 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 0.5 ppm
Analog Sensitivity (12 dB SINAD)	0.3 uV 0.22 uV (typical)
Digital Sensitivity (5% BER)	0.25 uV 0.19 uV (typical)
Intermodulation (TIA603D)	75 dB
Adjacent Channel Selectivity (TIA603D)	50 dB @ 12.5 kHz 75 dB @ 25 kHz
Spurious Rejection (TIA603D)	75 dB
Rated Audio	4 W (Internal) 7.5 W (External - 8 ohms) 13 W (External - 4 ohms)
Audio Distortion @ Rated Audio	3% (typical)

Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Audio Response	TIA603D
Conducted Spurious Emissions (TIA603D)	-57 dBm
TRANSMITTER	
Frequency	136-174 MHz
Channel Spacing	12.5 kHz / 20 kHz
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 0.5 ppm
Low Power Output	1-25 W
High Power Output	25-45 W
Modulation Limiting	± 2.5 kHz @ 12.5 kHz
	± 5.0 kHz @ 25 kHz
FM Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Conducted / Radiated Emission	-36 dBm < 1 GHz
	-30 dBm > 1 GHz
Adjacent Channel Power	60 dB @ 12.5 kHz
	70 dB @ 25 kHz
Audio Response	TIA603D
Audio Distortion	3%
FM Modulation	12.5 kHz: 11K0F3E
	25 kHz*: 16K0F3E
4FSK Digital Modulation	12.5 kHz Data: 7K60F1D and 7K60FXD
	12.5 kHz Voice: 7K60F1E and 7K60FXE
	Combination of 12.5 kHz Voice and Data: 7K60F1W
Digital Vocoder Type	AMBE +2™
Digital Protocol	ETSI TS 102 361-1, -2, -3
FEATURES	
Intelligent Audio for Noisy Environment	
Capability for Software upgradability to Single Site Trunking	
Busy Cahnnel Lock out	
Voice Announcement for Chanel change notification	
2 Voice Channels per Frequency	
Transmit Interrupt Capability	
Over the Air Programming	
Trill Enhancement	
SET ACCESSORIES	
DTMFHandset with Mic	To be supplied along with each set

Battery cable with fuse	To be supplied along with each set
Mounting Brackets with screws	To be supplied along with each set

ANTENNA	
Type	Slim Jim
Gain	3 db Gain or above
Antenna Impedance:	50 Ohms
Power supply unit cum battery charger:	i) Power supply unit cum battery charger 12-14V/10A (Linear charger)
Input Volt :170-270V AC/50Hz	ii) ON/OFF Switch with indication (must be provided)
	iii)AC-DC fuse (must be provided)
	iv) Current and Volt meter - On Panel (must be provided)
	v) 4.0 sq mm DC cable Red & Black each 2 mtrs with suitable eyelets (must be provided)
	vi) EMI & RF filter for single phase A.C. Power
	vii) Radio Terminal: 12-14V/0-10A with short circuit protection
	viii) Battery terminal: 12-14V/0-10A with current limit for limiting the charging.
	CABLE: (Andrew or Equivalent)
ENVIRONMENTAL SPECIFICATIONS:	
Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Thermal Shock	Per MIL-STD
Humidity	Per MIL-STD
ESD	IEC 61000-4-2 Level 3
Dust and Water Intrusion	IP54, MIL-STD*
Packaging Test	Per MIL-STD
Field Test :	will be tested in and around Chennai.
Warranty :	3 years for VHF Handheld set & Two year for accessories / As per OEM
Dealers Possession License	The participating firm must have valid DPL & copy must enclosed along with document

Item no.4 VHF Digital Repeater with accessories	
PARAMETERS	REQUIREMENTS
<u>GENERAL</u>	
Channel Spacing	12.5KHz for two voice slots in Digital Mode
Frequency Band	136 - 174 Mhz
Type of Emission	Analog - FM
	4 FSK Modulation complying to open standard Digital Protocol TDMA based
Type of Operation	Repeater mode at 100% duty cycle
Weight	Without External battery, antenna to be less than 18 kgs.
Integrated Power source	(i) Operating supply voltage : 230 V AC +/- 10 % 50 Hz ± 2%
	(ii) 12V/24V DC ±10% (negative ground)
	(iii) Automatic change over to battery in case of mains failure.
<u>TRANSMITTER</u>	
RF Power Output	25 watts at 100% duty cycle
Frequency stability	+/- 0.5 ppm
FM Hum/noise	(i) 25 KHz : 45 dB or better
	(ii) 12.5 KHz : 40 dB or better
Modulation Limiting	+/- 2.5 KHz @12.5 Khz and +/- 5.0 KHz at 25 KHz
Audio Distortion	3% typical
<u>RECEIVER</u>	
Sensitivity	(i) Analog : 0.30 μV or better for 12 dB SINAD
	(ii) Digital : 0.30 μV for 5% BER
Selectivity (Adjacent Channel)	60 dB @ 12.5 Khz or better
	70 dB @25 KHz or better
Inter modulation	75 dB or better
Audio Response	.+1 --3dB of 6dB/octave pre-emphasis from 300 to 2700 Hz Less than 3% at 1KHz refrence
Audio Distortion	Less than 3% typical
NETWORKING	IP based with Capacity Plus License to provide single-site trunking solution that enables over a thousand radio users to share both voice and data communication from common channels available on these Repeaters.
ENVIRONMENTAL	(i) Operating Temperature: -30 °C to + 60°C
	(ii) Storage Temperature : -30 °C to + 60°C
	(iii) Humidity -90% at 50°C (per Mil standard 810 E)
ACCESSORIES	(i) Antenna: GP antennas with 30 meter RF cables RG 217 connectorised.
INTERFACES	(a) Ethernet port RJ 45 to provide following: .
	b) Should have capability to provide Wide Area IP connectivity for Voice & data in future.

	c) Provision for Remote monitoring & status check
LITERATURE	(i) User manual with each repeater set
SET ACCESSORIES	
Battery cable with fuse	To be supplied along with each set
ANTENNA(DIAMOND MAKE)	
Type	Omni Directional
Gain	6db Gain or above
Antenna Impedance:	50 Ohms
CABLE: (Andrew or Equivalent)	Coaxial Cable -30 Mtrs & suitable Connectors both ends at 6 dB loss or better for 100 mtrs at 200 MHz and 50 ohm impedance
Field Test :	will be tested in and around Chennai.
Warranty :	3 years for VHF Handheld set & Two year for accessories / As per OEM
Dealers Possession License	The participating firm must have valid DPL & copy must enclosed along with document
<p>The Repeater station should be lightweight, Compact with state-of-the-art synthesized Radios to electronically generate the Radio frequencies. The Repeater should be continuous full duty cycle at rated power , In-built AC-DC Operation, Connectorised RF Cables & Antennas. The Repeater should be capable of operating in unattended mode with remote diagnostics and maintenance features. The Repeater should be capable of automatic switch over in case of mains failure. The repeater should work on TDMA technology as well as switchable to analog also to support all features of Hand held Portables & Mobile Radios with two simultaneous communications for Voice & Data. and Telephone Interconnect facility</p>	

Other criteria:

1.	Offered make /OEM should have ISO Certification .
2.	Equipments from MOTOROLA /ICOM/KENWOOD or equivalent will be preferred.
3.	Bidder should have Valid Dealer Possession License issued by WPC.
4.	Bidder should have local service centre in Chennai.
5.	If the Bidder is not a manufacturer, he should have an authorisation certificate from Manufacture and the same should be attached.
6.	The bidder should have the capacity to obtain a separate frequency and licence on behalf of this Department from WPC on actual cost basis.
7.	Should capable of operate with Analogue and Digital radios

Questionnaire to be filled by the Tenderer :

Note :

- Kindly give to the point and specific answers on a paper or letter head of your Company and put your signatures and seal at the end. In case you use more than one paper or letterhead, please sign and put seal on each page.
- Information given on unsigned papers or letterhead will not be taken into account
- The vendor if he wishes, may, apart from the answers to the questionnaire enclose brochures and leaflets. However, the information on any pamphlets or brochures submitted by the vendor may be used for corroboration and cross-checking of the information supplied by him or her in answer to the questionnaire but may not be used unless this information is provided in a signed answer-sheet carrying the seal.
- It will be presumed that a vendor who does not answer the questions in this questionnaire is either hiding the information or is not serious about selling his product to the Department.

Questionnaire

Describe the technical aspects in respect of each one of the items offered by you in your tender for the (Please furnish the particulars in a separate sheet or letter head duly signed by the tenderer)	
Item No.1 - VHF Digital Handheld set with accessories	
PARAMETERS	REQUIREMENTS as per specifications given in the tender
(1)	(2)
GENERAL	
Type	VHF Digital Handheld synthesised Transreceiver
Channel Capacity	16 or above

Frequency	136-174 MHz
Power Supply	7.5 V (Nominal)
Operating Temperature	-30°~ +60° C
Type of Operation:	Simplex / semi duplex Press to talk with built i
FCC Description	ABZ99FT3088
IC Description	109AB-99FT3088
RECEIVER	
Frequencies	136-174 MHz
Channel Spacing	12.5/25 kHz
Frequency Stability	± 0.5 ppm
Analog Sensitivity (12dB SINAD)	0.3uV
Typical	0.22uV (typical)
Digital Sensitivity	0.25 uV (0.19 uV typical)
Intermodulation (TIA603D)	70 dB
Adjacent Channel Selectivity (TIA603A)-1T	60dB @ 12.5kHz / 70dB @ 25 kHz
Adjacent Channel Selectivity (TIA603D)-2T	45dB @ 12.5kHz / 70dB @ 25 kHz
Spurious Rejection (TIA603D)	70 dB
Rated Audio	0.5W
Audio Distortion @ Rated Audio	5% 3% (typical)
Hum and Noise	‘-40dB @ 12.5kHz / -45dB @ 25 kHz
Audio Response	TIA603D
Conducted Spurious Emission (TIA603D)	-57 dBm
TRANSMITTER	
Frequencies	136-174 MHz
Channel Spacing	12.5/25kHz
Frequency Stability	± 0.5 ppm
Low Power Output	1W
High Power Output	5W
Modulation Limiting	± 2.5 kHz @ 12.5 kHz ± 5.0 kHz @ 25 kHz
FM Hum and Noise	‘-40 dB@ 12.5 kHz ‘-45 dB@ 25 kHz
Conducted/Radiated Emission	‘-36 dBm < 1 GHz ‘-30 dBm > 1 GHz 60 dB @ 12.5 kHz

Adjacent Channel Power	70 dB @ 25 kHz
Audio Response	TIA603D
Audio Distortion	3%
4FSK Digital Modulation	12.5kHz Data: 7K60F1D & 7K60FXI 12.5kHz Voice: 7K60F1E & 7K60FXI Combination of 12.5 kHz Voice and Data: 7K60F1W
Digital Vocoder Type	AMBE+2™
Digital Protocol	'-ETSI TS 102 361 -1,-2,-3
FEATURES	
Automatic audio enhancement to compensate background noise in Noisy environment so that clear audio output is received	
Capability for Software upgradability to Single Site Trunking	
Busy Channel Lock out	
Voice Announcement for Channel change and other main notification	
Double Voice Channels per simplex Frequency for real TDMA advantage	
Radio must be capable to be interrupted by Control room while transmitting.	
Over the Air Programming	
Trill Enhancement	
Acoustic feedback suppressor to eliminate unpleasant "howling" while receiving call while other radios in the same channel	
SET ACCESSORIES	
Power Source: Ni-Mh 1300 mAh battery along with set	
Battery Charger (230 V AC): Suitable Rapid Charger for Charging 1300 mAh Ni-MH Single Battery.	
Antenna:	Helical Antenna
Belt clip: To be supplied along with each set.	
ENVIRONMENTAL SPECIFICATIONS:	
Operating Temperature	
Storage Temperature	
Thermal Shock	
Humidity	
ESD	IEC 61000-4-2
Dust and Water Intrusion	
Packaging test	MIL-STD-883C
Field Test :	will be tested in and around Chennai
Warranty :	3 years for VHF Handheld set & 1 year for VHF Base Station

Dealers Possession License

The participating firm must have document

Item No.2 - VHF Digital Mobile set with	
PARAMETERS	REQUIREMENTS as per specifications given in the tender document
(1)	(2)
SPECIFICATIONS	VHF
GENERAL	
Type	VHF Digital Vehicle Mobile synthesised Transreceiver
Channel Capacity	256
Typical RF Output	
Low Power	1-25 W
High Power	25-45 W
Frequency	136-174 MHz
Dimensions (H x W x L)	1.7 x 6.7 x 5.3 in (44 x 169 x 134 mm)
Weight	2.9 lbs (1.3 kg)
Type of Operation:	Simplex / semi duplex
Current Drain	
Standby	0.81 A max
Rx @ Rated Audio	2 A max
Transmit	1-25 W: 11.0 A max / 25-45 W: 14.5 A max
FCC Description	1-25 W: ABZ99FT3090 25-45 W: ABZ99FT3091
IC Description	1-25 W: 109AB-99FT3090 25-45 W: 109AB-99FT3091
RECEIVER	
Frequency	136-174 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 0.5 ppm

Analog Sensitivity (12 dB SINAD)	0.3 uV
	0.22 uV (typical)
Digital Sensitivity (5% BER)	0.25 uV
	0.19 uV (typical)
Intermodulation (TIA603D)	75 dB
Adjacent Channel Selectivity (TIA603D)	50 dB @ 12.5 kHz
	75 dB @ 25 kHz
Spurious Rejection (TIA603D)	75 dB
Rated Audio	4 W (Internal)
	7.5 W (External - 8 ohms)
	13 W (External - 4 ohms)
Audio Distortion @ Rated Audio	3% (typical)
Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Audio Response	TIA603D
Conducted Spurious Emissions (TIA603D)	-57 dBm
TRANSMITTER	
Frequency	136-174 MHz
Channel Spacing	12.5 kHz / 20 kHz
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 0.5 ppm
Low Power Output	1-25 W
High Power Output	25-45 W
Modulation Limiting	± 2.5 kHz @ 12.5 kHz
	± 5.0 kHz @ 25 kHz
FM Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Conducted / Radiated Emission	-36 dBm < 1 GHz
	-30 dBm > 1 GHz
Adjacent Channel Power	60 dB @ 12.5 kHz
	70 dB @ 25 kHz
Audio Response	TIA603D
Audio Distortion	3%
FM Modulation	12.5 kHz: 11K0F3E
	25 kHz*: 16K0F3E
4FSK Digital Modulation	12.5 kHz Data: 7K60F1D and 7K60FXD
	12.5 kHz Voice: 7K60F1E and 7K60FXE
	Combination of 12.5 kHz Voice and Data: 7K60F1W
Digital Vocoder Type	AMBE +2™
Digital Protocol	ETSI TS 102 361-1, -2, -3
FEATURES	

Intelligent Audio for Noisy Environment	
Capability for Software upgradability to Single Site Trunking	
Busy Channel Lock out	
Voice Announcement for Channel change notification	
2 Voice Channels per Frequency	
Transmit Interrupt Capability	
Over the Air Programming	
Trellis Enhancement	
SET ACCESSORIES	
DTMF Handset with Mic	To be supplied along with each set
Battery cable with fuse	To be supplied along with each set
Mounting Brackets with screws	To be supplied along with each set
ANTENNA(DIAMOND MAKE)	
Type	Mobile Antenna with 5 mtrs cable and suitable Connectors
Gain	3 db Gain or above
Antenna Impedance:	50 Ohms Less than 1.5
V.S.W.R.:	
ENVIRONMENTAL SPECIFICATIONS:	
Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Thermal Shock	Per MIL-STD
Humidity	Per MIL-STD
ESD	IEC 61000-4-2 Level 3
Dust and Water	IP54, MIL-STD*
Intrusion	
Packaging Test	Per MIL-STD
Field Test :	will be tested in and around Chennai.
Warranty :	3 years for VHF Handheld set & Two year for accessories / As per OEM
Dealers Possession License	The participating firm must have valid DPL & copy must enclosed along with do

Item No.3- VHF D	
PARAMETERS	REQUIREMENTS as per specifications given in the tender

SPECIFICATIONS	VHF
GENERAL	
Type	VHF Digital Static Synthesised Transreceiver
Channel Capacity	256
Typical RF Output	
Low Power	1-25 W
High Power	25-45 W
Frequency	136-174 MHz
Dimensions (H x W x L)	1.7 x 6.7 x 5.3 in (44 x 169 x 134 mm)
Weight	2.9 lbs (1.3 kg)
Type of Operation:	Simplex / semi duplex
Current Drain	
Standby	0.81 A max
Rx @ Rated Audio	2 A max
Transmit	1-25 W: 11.0 A max / 25-45 W: 14.5 A max
FCC Description	1-25 W: ABZ99FT3090 25-45 W: ABZ99FT3091
IC Description	1-25 W: 109AB-99FT3090 25-45 W: 109AB-99FT3091
RECEIVER	
Frequency	136-174 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 0.5 ppm
Analog Sensitivity (12 dB SINAD)	0.3 uV 0.22 uV (typical)
Digital Sensitivity (5% BER)	0.25 uV 0.19 uV (typical)
Intermodulation (TIA603D)	75 dB
Adjacent Channel Selectivity (TIA603D)	50 dB @ 12.5 kHz 75 dB @ 25 kHz
Spurious Rejection (TIA603D)	75 dB
Rated Audio	4 W (Internal) 7.5 W (External - 8 ohms) 13 W (External - 4 ohms)
Audio Distortion @ Rated Audio	3% (typical)

Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Audio Response	TIA603D
Conducted Spurious Emissions (TIA603D)	-57 dBm
TRANSMITTER	
Frequency	136-174 MHz
Channel Spacing	12.5 kHz / 20 kHz
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 0.5 ppm
Low Power Output	1-25 W
High Power Output	25-45 W
Modulation Limiting	± 2.5 kHz @ 12.5 kHz
	± 5.0 kHz @ 25 kHz
FM Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Conducted / Radiated Emission	-36 dBm < 1 GHz
	-30 dBm > 1 GHz
Adjacent Channel Power	60 dB @ 12.5 kHz
	70 dB @ 25 kHz
Audio Response	TIA603D
Audio Distortion	3%
FM Modulation	12.5 kHz: 11K0F3E
	25 kHz*: 16K0F3E
4FSK Digital Modulation	12.5 kHz Data: 7K60F1D and 7K60FX
	12.5 kHz Voice: 7K60F1E and 7K60FX
	Combination of 12.5 kHz Voice and Data: 7K60F1W
Digital Vocoder Type	AMBE +2™
Digital Protocol	ETSI TS 102 361-1, -2, -3
FEATURES	
Intelligent Audio for Noisy Environment	
Capability for Software upgradability to Single Site Trunking	
Busy Channel Lock out	
Voice Announcement for Channel change notification	
2 Voice Channels per Frequency	
Transmit Interrupt Capability	
Over the Air Programming	
Trill Enhancement	
SET ACCESSORIES	
DTMF Handset with Mic	
Battery cable with fuse	
Mounting Brackets with screws	
ANTENNA	

Type	S
Gain	3
Antenna Impedance:	50
Power supply unit cum battery charger: Input Volt :170-270V AC/50Hz	i) ii) iii) iv) v) vi) vi) vi)
CABLE: (Andrew or Equivalent)	C in
ENVIRONMENTAL SPECIFICATIONS:	
Operating Temperature	-3
Storage Temperature	-4
Thermal Shock	P
Humidity	P
ESD	II
Dust and Water Intrusion	II
Packaging Test	P
Field Test :	w
Warranty :	3
Dealers Possession License	T

Item No.4- VHF Digital Repeater with accessories			
PARAMETERS	REQUIREMENTS as per specifications given in the tender document	Please mention the specification of your offer as against each one	Whether specification of product complies with requirements mentioned under column If indicated remarks
<u>GENERAL</u>			
Channel	12.5KHz for two voice slots in Digital Mode		

Spacing			
Frequency Band	136 - 174 Mhz		
Type of Emission	Analog - FM		
	4 FSK Modulation complying to open standard Digital Protocol TDMA based		
Type of Operation	Repeater mode at 100% duty cycle		
Weight	Without External battery, antenna to be less than 18 kgs.		
Integrated Power source	(i) Operating supply voltage : 230 V AC +/- 10 % 50 Hz ± 2%		
	(ii) 12V/24V DC ±10% (negative ground)		
	(iii) Automatic change over to battery in case of mains failure.		
<u>TRANSMITTER</u>			
RF Power Output	25 watts at 100% duty cycle		
Frequency stability	+/- 0.5 ppm		
FM Hum/noise	(i) 25 KHz : 45 dB or better		
	(ii) 12.5 KHz : 40 dB or better		
Modulation Limiting	+/- 2.5 KHz @12.5 Khz and +/- 5.0 KHz at 25 KHz		
Audio Distortion	3% typical		
<u>RECEIVER</u>			
Sensitivity	(i) Analog : 0.30 µV or better for 12 dB SINAD		
	(ii) Digital : 0.30 µV for 5% BER		
Selectivity (Adjacent Channel)	60 dB @ 12.5 Khz or better		
	70 dB @25 KHz or better		
Inter modulation	75 dB or better		
Audio Response	.+1 --3dB of 6dB/octave pre-emphasis from 300 to 2700 Hz Less than 3% at 1KHz refrence		
Audio Distortion	Less than 3% typical		
NETWORKING	IP based with Capacity Plus License to provide single-site trunking solution that enables over a thousand radio users to share both voice and data communication from common channels available on these Repeaters.		

ENVIRONME NTAL	(i) Operating Temperature: -30 °C to + 60°C		
	(ii) Storage Temperature : -30 °C to + 60°C		
	(iii) Humidity -90% at 50°C (per Mil standard 810 E)		
ACCESSORIE S	(i) Antenna: GP antennas with 30 meter RF cables RG 217 connectorised.		
INTERFACES	(a) Ethernet port RJ 45 to provide following: .		
	b) Should have capability to provide Wide Area IP connectivity for Voice & data in future.		
	c) Provision for Remote monitoring & status check		
LITERATURE	(i) User manual with each repeaterb set		
SET ACCESSORIES			
Battery cable with fuse	To be supplied along with each set		
ANTENNA(DIAMOND MAKE)			
Type	Omni Directional		
Gain	6db Gain or above		
Antenna Impedance:	50 Ohms		
CABLE: (Andrew or Equivalent)	Coaxial Cable -30 Mtrs & suitable Connectors both ends at 6 dB loss or better for 100 mtrs at 200 MHz and 50 ohm impedance		
Field Test :	will be tested in and around Chennai.		
Warranty :	3 years for VHF Handheld set & Two year for accessories / As per OEM		
Dealers Possession License	The participating firm must have valid DPL & copy must enclosed along with document		

<p>The Repeater station should be lightweight, Compact with state-of-the-art synthesized Radios to electronically generate the Radio frequencies. The Repeater should be continuous full duty cycle at rated power , In-built AC-DC Operation, Connectorised RF Cables & Antennas. The Repeater should be capable of operating in unattended mode with remote diagnostics and maintenance features. The Repeater should be capable of automatic switch over in case of mains failure. The repeater should work on TDMA technology as well as switchable to analog also to support all features of Hand held Portables & Mobile Radios with two simultaneous communications for Voice & Data. and Telephone Interconnect facility</p>	
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Other criteria: Please answer the following:

1.	Whether the offered make /Model is having ISO Certification and ERTL test reports for Environmental testing.	
2.	Whether you have Valid Dealer Possession License issued by WPC.	
3.	Whether you have local service centre in Chennai.	
4.	If you are not a manufacturer, whether you have an authorisation certificate from Manufacture and if so the same may be furnished	
5.	Whether you have the capacity to obtain a separate frequency and licence on behalf of this Department from WPC on actual cost basis.	
6.	Whether capable of operate with Analogue and Digital radios	

Criteria for Evaluation of Tenders:

- ❖ This is a two-bid tender consisting of :
 - (i) Technical bid and
 - (ii) Price bid

- ❖ Technical bid which may be named as “Envelope-A” should contain the technical details of the items offered, commercial terms and conditions along with a list of the enclosures such as proof in respect of manufacturer or the authorisation letter from the manufacturer, latest local tax clearance certificate if any applicable to the country/origin along with EMD.
- ❖ Price bid, which should be furnished separately as “Envelop – B” in the format prescribed in the tender form in a sealed cover, and the same will be opened only after evaluation of the technical bid,
- ❖ If more than one model is offered, the rate quoted only in respect of the model qualified for selection as per the criteria laid down for evaluation alone will be taken into consideration. Hence, separate price bid covers may be furnished for each model if more than one model is offered.
- ❖ If at any stage, a technical flaw is noticed in following the procedure, the procuring entity will take appropriate decisions and reserve the rights to relax or waive or modify at his discretion any of the condition in the interest of the Department so as to ensure that the overall objective of procurement is not defeated.
- ❖ The evaluation of the tender offers will be done in three stages. The rules laid down in Tamil Nadu Transparency of Tenders Act, 1998 and related rules will be scrupulously followed.

Stage I : Rejection of tender offer found technically defective :

- a) Only the tender document supplied by this Office or the tender documents which were downloaded from the department’s website at free of cost should be used and it should be resubmitted in full shape **without detaching any page from it.**
- b) (i) Each page of the tender document, including technical specifications should be duly signed for having noted the contents of the tender document. Tenders in any forms other than the forms and schedules issued by the department to the tenderer will not considered and will be rejected as non-responsive.
(ii) Further, the tenderers are requested to put the page number to the tender documents serially including all enclosures while submitting their tender.
- (c) (i) Those who do not submit the EMD, as defined in this tender document, along with the tender (unless the vendor is exempted by a specific rule provision for which documents must be submitted along with the tender to prove that the firm is exempted for this particular item) will not be considered.
(ii) In case of partial amount of EMD, the tender will be rejected straightaway and the offer will not be considered. In cases where exemption is sought, a plea for producing the exemption documents later will not be accepted.
(iii) EMD submitted in a manner other than that specified in the tender document will be considered as not submitted and the tender will be rejected.
- (d) (i) A vendor who does not answer all the questions in questionnaire will not be considered. Only those offers will be considered in which all questions in the questionnaire have been answered.
(ii) Oversight will not be taken as a reason for not answering a question. It is presumed that a vendor trying for a deal about equipment related with life saving

would show adequate seriousness about furnishing details about the product offered by him or not.

- (e) While supplying information in response to the questionnaire answers such as “will be supplied later” or “will be informed later” will not be accepted. Such answers will lead to the conclusion that the vendor is either not an authorised dealer of the said company or is not serious about the deal.

Stage 2 (Evaluation of Essential Features as per specifications in the tender form):

1. If the tenderer is a manufacturer, attach a proof for the same
2. If the tenderer is not a manufacturer, the offer which is not accompanied with a zeroxed copy of an authorization letter from the manufacturer or some other incontrovertible proof that the vendor is an authorised distributor / dealer of the manufacturer, will be rejected.
3. An offer, which is not accompanied with a certificate of approval of the standard by the competent authority in respect of the product offered, will be rejected.
4. The answers given by the tenderer to the questionnaire will be taken into account for verification whether the offer made by the tenderer satisfy the specification and other requirements.
5. An offer which does not meet out the detailed specifications will be rejected. However, the procuring entity will take appropriate decision and reserve the rights to relax or waive or modify at his discretion any of the condition / specification in the interest of the Department, so as to ensure that the overall objective of procurement is not defeated.

Stage 3 : Selection of the suitable tenders :

The offers that are not rejected during stage 2 above, the technical bids will be further evaluated and finalised based on verification of the sample and the technical details given in the tender document.

Verification /Demonstration of sample on 20.4.2016

- Sample produced by the tenderers will be verified / tested by the Committee on the date to be specified by the Department in the presence of representative of the concerned tenderer. Hence, it is the responsibility of the tenderer to keep one sample in readiness, so as to produce the same along with tender on the stipulated date or to depute a responsible person to produce the same on or before the date for verification by the Committee without fail for verification. **No communication will be sent separately for production sample on the above said date.** Only if any changes in the date of production of sample, the same will be intimated through proper mode. Further, production of such a sample will, however, be no indication that the items are going to be procured from the vendor.
- In case, any vendor fails to produce the sample on the date fixed without proper reason, it will be presumed that he is unable to produce the sample and his offer will be rejected. **However, the DF&RS or the Committee consider that if the**

reasons stated by the vendor are reasonable, give more time for production of the sample.

- While evaluation the tender, or after seeing the sample, additional details, if any required may be called for from the tenderers for which a message will be despatched to him through proper mode. Hence, it is the responsibility of the tenderer to furnish the additional particulars as and when called for. Furnishing of such additional details will, however, be no indication that it is going to be accepted. In case, any vendor fails to furnish the details called for within the stipulated time, it will be presumed that he is unable to furnish the details and not interested in his offer and his offer will be rejected.
- While evaluating the technical bids if any one of the tendered equipment does not suit the tender conditions as laid down in technical specifications, the DF&RS reserves the right.:
 - (1) To relax or waive or modify at his discretion any of the condition/specification in respect of the equipment in question in the interest of the Department,
 - (or)
 - (2) To reject all the tenders in respect of the equipment in question without assigning any reasons whatsoever and to suitably modify the numbers to be brought among the selected one of other tendered items to suit our requirement.

Price Bid Opening

- The Price bid should be furnished in the format given in the tender form in a sealed cover as indicated in the tender for each model separately. While giving the Price Bid, the price details like basic rate (i.e. the rate without taxes and duties) along with separate details of Sales Tax / Surcharge, CST, Customs Duty, Excise Duty, Freight charges, Octroi, Insurance for delivery and such other levies that may t be applicable **must be quoted in the format enclosed.**
- The Vendors whose offers have been found to be suitable for the use of this department based on the above mentioned criteria for evaluation alone will be called for opening of their price bid at a later date and time fixed by the department which will be intimated to the tender after the technical evaluation of the tender is completed.
- The Price Bid will be evaluated as per the criteria laid down in Tamil Nadu Transparency in Tender Rules 2000.

1. The Vendor shall be the manufacturer of the item / items or an authorised distributor / dealer of the manufacturer,

In case the firm is an authorised distributor / dealer, it shall produce along with the tender – offer a certificate of specific authorisation from the original manufacturer of the equipment.

As a manufacturer, if the tenderer is in abroad, payment terms for imports shall be based on the standard terms of international trade and the payment will be effected through irrevocable letters of credit drawn on banks as per the rate fixed as per negotiation. Further, since it is an open tender the rate fixed as per negotiation and not exceeding the exchangeable rate of Indian Rupee applicable on the date of opening of price bid will be taking in to account for evaluation of price bids. The Tamil Nadu Transparency in Tenders Act 1998 and the Tamil Nadu Transparency in Tender Rules 2000 are applicable for the tender.

2. **Mode of submission of tender offer :**

(a) Sealed tenders containing :

- (i) Technical bid which may be named as “Envelope – A “ containing technical details, commercial terms along with a list of the enclosures such as proof in respect of manufacturer or the authorization letter from the manufacturer, latest local tax clearance certificate if any applicable to the country/origin along with EMD.
and

- (ii) Separate price bid as “Envelope – B” in a sealed cover in the format prescribed in the tender form.

will be received for and on behalf of the Tamil Nadu Fire and Rescue Services Department so as to reach on or before the due date prescribed. All the tenders shall be prepared and submitted strictly in accordance with the instructions set forth herein. The Tamil Nadu Transparency in Tenders Act 1998 and the Tamil Nadu Transparency in Tender Rules 2000 are applicable for the tender.

[Sealed Tenders means, it may be wax sealed or any other mode of seal at tenderer’s risk which could not be tampered]

b) The EMD in the prescribed format or, if exemption from EMD is sought, proof of exemption from payment of EMD and an undertaking in lieu of EMD should be produced along with sealed tenders.

c) The following address must be written on the OUTER ENVELOPE:

Administrative P.A to the Director,
Office of the Director,
Fire & Rescue Services Department,
No.17 Rukmani Lakshmi pathy Salai,
Egmore, Chennai 600 008.
Tamil Nadu. India.

This cover shall be superscribed “Tender for supply of Group I- Walkie Talkie and Wireless Sets” and this cover must reach the address at the above mentioned address on or before the date and time as indicated in the TOP SHEET.

d) The Tenderer has the option of sending the offer by Registered Post A/D or by Speed Post or by Courier or by air mail for overseas delivery before the date and time fixed.

e) Delivery of Tender in person will not be accepted on any account and the tender submitted after the last date and time will not be accepted under any circumstances.

f) The tenderers who could not send their tender by post can put the tender in the Tender Box kept for this purpose at the above mentioned address before the date and time fixed. The slit of the tender box shall be 28cm x 3 cm and therefore the cover should be brought of suitable size to move inside the slit.

g) Any relaxation in the mode of submission of tender will be considered only by the DF&RS and his discretion will be final.

Method of submitting Price Bids :

3. (i) While giving the Price Bid, the price details like basic rate (i.e the rate without taxes and duties) along with separate details of Sales Tax / Surcharge, CST, Custom Duty, Excise Duty, freight charges, Octroi, insurance for delivery and such other levies that may be applicable **must be quoted in the format enclosed**. The total of all these must be separately indicated as NET RATE.

(ii) The Tenderer from other States should clearly indicate the Sales Tax applicable for the purchase made by this Department in the price bid format. If the tenderer mentions that this department is eligible for availing concessional sales tax, the tender has to attach authentication for the same.

(iii) If the tenderer is from Tamil Nadu, concessional sales tax applicable for the purchases made by Government Departments will be taken in to account at the time of payment for which the certificate prescribed by the Sales Tax Department of the Tamil Nadu will be furnished.

(iv) Rates should be shown distinctly in words as well as figures. In case of a discrepancy between the rate in words and figures, the lower of the two shall be taken. If any discount offered by the tenderer, it should be furnished in the Price bid format.

6. The rate shall be valid for **180 days** from the date of opening of the tenders.

7. The item/items supplied by the successful bidder shall clearly indicate in the form of a permanent label or in some other indelible form such details as batch no. Serial No. Year of manufacture, name of the manufacturer etc to authenticate that the given item has been actually manufactured by the said manufacturer.

**UNDERTAKING FOR EXECUTION OF CONTRACT
Tender for the Supply of Articles**

(To be signed by the Tenderer)

To
The Governor of Tamil Nadu,
Represented by
The Director,
O/o the Director of Fire & Rescue Services,
No.17 Rukmani Lakshmi pathy Salai,
Egmore, Chennai 600 008.

I, hereby contract and agree on the acceptance of this Tender to supply to the Government of Tamil Nadu (herein after referred to as “the Government”) in accordance with the conditions of contract stated below, the articles specified in the schedule below of the quality of sort and at the rate of price therein specified and I hereby forward a sum of Rs..... (Rupees only) as Earnest Money Deposit to be returned to me if this tender is not accepted.

If this tender should be accepted, I hereby undertake to execute within the date specified the department, a contract in accordance with the terms and conditions of contract aforesaid together with such further usual conditions as before the execution of the contract may be agreed upon between the successful Tender and the authority concerned in the Department.

Signature of the Tenderer
With Date and Seal

CONDITIONS TO BE INCORPORATED IN THE AGREEMENT TO BE MADE WITH THE SUCESSFUL TENDERER (INFORMATION TO THE TENDERER)

1. This contract is to last for one year certain from its date. But in the event of any breach of agreement at any time on the part of the contractor, the contract shall be terminated by the Director of Fire and Rescue Services, Chennai on behalf of the Governor of Tamil Nadu upon giving fifteen days notice to the contractor.
2. The articles to be supplied under this contract are to be of the quality or sort above mentioned and in every respect equal and answerable to be the patterns or submitted during evaluation and such as the Director or any other duly authorised by him shall approve.
3. The articles are to be delivered free of charge at the contractor's risk in such quantities or number at such times and in such manner as the Director of Fire and Rescue Services, Chennai or anyone duly authorised by him shall from time to time order.
4. Rejected articles shall be removed by and at the expense of the contractor within seven days after notice shall have been given him of the rejection. If not so removed, the Director of Fire & Rescue Services, Chennai may cause the articles to be removed and charge the contractor with all expenses incurred in such removal.
5. In case of failure by the contractor to deliver articles demanded from him within the period limited for delivery or in case of articles delivered by him not being the stipulated quality, sort, weight or measure or in case of articles being delivered without a correct invoice in triplicate, the Director of Fire & Rescue Services, Chennai or anyone duly authorised by him shall have power to reject any such articles and to purchase others instead of any articles so rejected or not delivered unless the contractor shall himself forthwith supply orders that shall be sufficient and satisfactory and any excess cost so incurred by the Government over the contract price together with all charges and expenses attending the purchase shall be recoverable by the Government from the contractor.
6. In case of failure to complete the supplies within the date of delivery specified in terms of the contract placed on the contractor the difference between his offer and the next selected offer shall be recoverable by the Government from the contractor.
7. The contract or any part, share or interest in it is not to be transferred or assigned by the contractor directly or indirectly to any person or persons whosoever without the written consent of the Director of Fire & Rescue Services, Chennai.

8. The Contractor shall make his own arrangement for obtaining import licences in respect of articles tendered for supply under this contract from the authorities concerned and in no case will his applications in this regard be forwarded.
9. With every delivery of articles under the contract, the contractor should send invoices or bills in triplicate, which after verification will be passed for payment.
10. The Government hereby agree that during the term fixed by this contract, and except as herein provided Government shall not purchase from any persons other than the contractor or from any Company or Corporation all or any quantities of the Goods or materials agreed to be supplied by the contractor.
11. Nothing herein contained shall prevent the Director of Fire and Rescue Services, Chennai from at any time requiring the contractor to supply and delivery any larger number of any one or more of the said articles than the number of the same mentioned in the said schedule and in any such case and so often as the same shall happen, the contractor shall and will supply and deliver as aforesaid such additional number of all or any of the said articles subject to the several provisions herein contained as shall be required by him and nothing herein contained to take from the contractor the whole or any of the said articles and the contractor shall supply and deliver under this contract only such of the said articles as shall from time to time be required by or on behalf of the Director of Fire & Rescue Services, Chennai.
12. Any Notice to the contractor shall deemed to be sufficiently served if given or left in writing at his usual or last known place of abode or business.
13. The contractor shall furnish money security for the due fulfilment of the Contract equivalent to **5 percent** of the total value of the supplies contracted for. This security may be in the form of Cash or Demand Draft or Banker's cheque or specified small savings instruments or where the procuring entity deems fit, irrevocable bank guarantee in a prescribed form.
14. Upon the complete fulfilment of this contract by the contractor to the satisfaction of the Government or any officer duly authorised by them, the security furnished by the contractor shall be returned to him, less the amount if any due by the contractor to the Government.

Noted the contents:

(Signature of the Tenderer)

**FORM OF CERTIFICATE OF SALES TAX VERIFICATION TO BE PRODUCED BY
AN APPLICANT FOR CONTRACTG OR OTHER PATRONAGE AT THE
DISPOSAL OF THE GOVERNEMNT OF TAMIL NADU.**

(To be filled in by the applicant)

1.	Name and style in which the applicant is assessed or assessable to Sales-Tax and address for the purpose of assessment	
2.	Name and address of all companies, firms or association or persons in which the applicant is interested in his individual or fiduciary capacity.	
3.	The districts, taluks and divisions in which the applicant is assessed to Sales Tax (All the places of business should be furnished)	
4.	(a) Total Contract amount or value of patronage in the preceding four years:	
2011-12		
2012-13		
2013-14		
2014-15		

(b) Particulars to Sales Tax for the preceding four years : -					
Year	Total T.O Assessed	Total Tax Assessed	Total Tax paid	Balance due	Reason for balance
(1)	(2)	(3)	(4)	(5)	(6)
2011-12					
2012-13					
2013-14					
2014-15					

(c) If there has been no assessment in any year whether returns were submitted and if they were, the division in which the returns were sent.	
(d) Whether any penal or proceeding for the recovery of sales-tax is pending.	
(e) The name and addresses of branches, if any.	

(To be filled in by the Assessing Authority)

In my opinion the applicant mentioned above has been / has not been doing everything possible to pay the tax demands promptly and regularly and to facilitate the completion of pending proceedings.

Date Seal

Deputy Commercial Tax Officer
Assistant

A separate certificate should be obtained in respect of each of the places of business of the applicant from the Deputy Commercial Tax Officer or Assistant Commercial Tax Officer having jurisdiction over that place.

Note :

If the tenderer is not able to get the above certificate from the Commercial tax Department before the due date of tender, the details for in the format should be furnished along with tender. The certificate from the Assessing Authority may be furnished separately before finalisation of the tender.

OTHER GENERAL TERMS AND CONDITIONS FOR THE TENDER FOR THE SUPPLY OF THE TENDERED ITEMS TO FIRE AND RESCUE SERVICES DEPARTMENT.

Tender Form :

1. The Tender schedule is not transferable and only the tenderer to whom it is officially issued by the Fire and Rescue Services Department should use it.
2. The Vendors who have downloaded the Tender documents from the Departmental website must intimate the same through the following email address : asupt.tnfrs@gov.in so that any changes can be intimated. Otherwise, it will be considered that the vendor is doing it at his own risk.
3. Only the original tender document supplied by this Office or the tender documents which have downloaded from the department's website should be used and it should be resubmitted in full shape without detaching any page from it duly signed on each page for having noted the contents of the tender document. Xerox copies or copies typed on paper will not be accepted and the offer will be rejected.
4. Incomplete tender documents will be rejected.
5. When the tender is made by an individual, it shall be signed with his name and address and in case of partnership firm it shall be signed by one of the Partners empowered to submit tenders on behalf of the partnership as contemplated. If it is made by a Company or Corporation it shall be signed by an officer duly authorised for the purpose. In all cases, the status of the tenderer, whether a Proprietorship, Partnership, Company or Corporation should be furnished in the covering letter with full address of the tenderer's name, name of the partners, Directors etc. The Tenderer should also furnish such particulars / evidence as

may be required by the competent authority in this Department before execution of the agreement.

6. If any covering letter accompanying the tender document is in the tenderers letter head form, all terms and conditions printed therein should be scored out and duly authenticated. It should be distinctly understood that such printed terms and conditions in the letter head will not have any binding on this Department and those terms and conditions quoted in the tender document only will be considered.
7. No erasers, interpolations, or alterations will be allowed except when initialled by the tenderer.
8. The vendor if he wishes, may apart from the answers to the questionnaire enclose brochures and leaflets.

Earnest Money Deposit:

9. (a) Earnest money deposit should be paid along with tender by way of Bankers cheque or DD in favour of the Director of Fire & Rescue Services Department, Chennai should be compulsorily appended with the tender document as indicated in the Top sheet of the tender document. Specified small savings instruments or irrevocable bank guarantee will also be accepted. Personal / Company cheques will not be accepted.
 - (b) Any Tender submitted without EMD will be summarily rejected.
 - (c) If exemption from EMD is sought, proof of exemption from payment of EMD from competent authority duly indicating the eligibility for the item mentioned in the tender document along with an undertaking in lieu of EMD should be produced along with sealed tenders.
 - (d) In case of unsuccessful tenderers, their Earnest Money Deposit will be returned to them in due course soon after the final decision is taken on the tenders by the department. The Earnest Money of unsuccessful tenderers outside Tamil Nadu State will, however, be returned by money order or by DD and the money order commission or DD Commission will be deducted from the amount refundable. The Earnest Money Deposit will not bear any interest.

Prices : Details to be furnished and conditions :

10. (a) Rates should be shown distinctly in words as well as figures.
 - (b) Prices quoted should include the cost of all accessories essential to make the equipment/article fully functional.
 - (c) The price bid should be furnished as mentioned in the "Important instructions to the Vendor" given in the tender document.
 - (d) If a foreign vendor is willing to participate in the tender directly, he should furnish his offer as mentioned in the "Important instructions to the Vendor" given in the tender document.
 - (e) Further, the tenderer shall agree to extend the validity of the tender without altering the substance and prices of their bid for further periods, if any, required by the purchaser.
 - (f) No charges other than those mentioned in the supply order will be paid under any circumstances.

Demonstration of equipment and Evaluation :

- 11.(a) The evaluation of tenders will be made as per “Criteria for evaluation of tenders’ given in the tender document.
- (b) The Tenderer should produce the equipment/materials which he has quoted in the tender document for demonstration before the evaluation committee on the date fixed for production. The tender will be rejected if the article is not produced for demonstration and Earnest Money Deposit is liable to be forfeited in the event of such failure.
- (c) Each sample produced for demonstration must have a label attached to it, showing clearly the name of the tenderer and the country of manufacture.

Warranty

- 12 (a) The warranty period shall be as may be stipulated for the article concerned from the date of supply.
- (b) The warranty shall cover defects in materials or bad workmanship under normal use and service for the period of warranty notwithstanding the fact that the material was inspected and approved by inspecting officers.

Acceptance of tender

- 13 (a) The lowest tender will not necessarily be accepted.
- (b) Notification of acceptance of tender by the Department shall be deemed to result in and constitute a valid and considered contract binding on the tenderer. If the tenderer withdraws his / her tender after acceptance by the Department, the EMD shall be forfeited.

Release of Purchase Order.

14. The contractor should examine carefully the purchase order immediately on receipt and bring to the notice of the indenting officer within five days of receipt of purchase order and discrepancy with regard to the quantity ordered, specifications, packing, etc., for prompt rectification. The letter should be sent by registered post Acknowledgement due. Meanwhile, supply of the materials, which are cleared in all respects for despatch and acceptance by the consignees shall be arranged by the date mutually, agreed upon and should not be held up for any reason whatsoever.

Security Deposit

- 15(a) Security Deposit equivalent to **5** percent of the total value of the supplies contracted for will have to be furnished by the successful tenderer. This security

may be in the form of Cash or Demand draft or Bankers' cheque or specified small savings instruments or where the procuring entity deems fit, irrevocable bank guarantee in a prescribed form. This is liable to be forfeited either in full or in part for any breach of conditions of contract or default on the part of the contractor.

(b) If the successful tenderer fails to remit the Security Deposit and execute the agreement within the period specified the Earnest Money Deposit will be forfeited. The security deposit will be refunded only upon satisfactory fulfillment of the contract after completion of supply of the entire materials ordered and expiry of the guarantee period duly adjusting the amount due to the Department if any.

(c) Security Deposit paid by the successful tenderer will not bear any interest.

Agreement

16 (a) The successful tenderer should execute an agreement in non-judicial stamp paper, having a face value of Rs.100/- or any other value intimated in the provisional order within the date specified therein in the Form, which can be seen at the Office of the Director of Fire & Rescue Services, Chennai, for the due fulfillment of the contract. The Stamp duty on the agreement shall be borne by the successful tenderer. The foreign vendor may authorize his Indian Representative to sign the agreement on his behalf.

(b) On their executing the agreement, the Earnest Money will be returned to them. In case firms outside Tamil Nadu State the EMD will be returned by money order or by DD and the money order commission or DD commission will be deducted from the amount refundable

(c) If the tenderer is from abroad, payment terms for imports shall be based on standard terms of international trade and the payment will be effected through irrecoverable letters of credit drawn on banks as per the rate fixed as per negotiation.

Delivery

17 (a) The rates accepted will be for delivery at such destinations as indicated in the tender document or in subsequent purchase order.

(b) The delivery period should be mentioned by the Tenderers in their offers. However, the maximum time limit for supply of the goods will be fixed by the Director while executing the agreement with the successful tenderer. The supplier shall reckon the delivery period from the date of receipt of the purchase order. The date of delivery as per postal acknowledgement due in the case of purchase order sent

by post or the date of delivery if delivered in person or through special messenger shall be deemed to be the date of receipt of the purchase ordered.

- (c) Delivery period is inclusive of pre-delivery inspection. The date of delivery of materials in good condition to the consignees shall be the date of supply. The rate of progress indicated in the purchase order should be maintained. The materials should be delivered to the consignees as per the purchase order placed.

Acceptance of materials by the consignee:-

18. If on examination of the sample, any portion of the supplied materials / equipment is found to be damaged or substandard or not fully in accordance with the relevant specifications, the whole supply shall be rejected irrespective of the fact that this material was cleared under pre-delivery inspection. The materials / equipment should strictly conform to the specifications given in the tender conditions. In case of doubt whether the materials conform to the specifications or not, the decision of the consignee shall be final. The consignee has right to reject the equipment found not conforming to the specifications and they should be replaced within seven days at the cost of the supplier. □

Penalty: -

- 19 (a) Where their supply is not completed within the delivery schedule, without prejudice to the right of the Department to cancel undelivered portion of the purchase order, extension of time may, if so required by the contractor may be granted at the discretion of this Department. Such extension of time will entail recovery of penalty from the contractor at one percent per week, on the value of the undelivered quantities subject to a maximum of five percent of the value of the undelivered quantity. However, the Director may waive the penalty on valid reasons as per his discretion. .
- (b) The officer authorised by this Department will have the right to cancel the purchase order and to recover from the contractor liquidated damages at **2%** of the value of the undelivered quantity or the extra financial commitment to this Department on the purchase of the balance quantity, whichever is higher besides forfeiting the security deposit.

Performance guarantee

20. After successful completion of the the items, 10 percent of the payment amount will be retained during the warranty period as performance guarantee. Alternatively, if the tenderer gives an irrecoverable Bank Guarantee in lieu of the balance 10 percent, the department reserves the right to accept the same. If the warranty period exceeds 2 years, the minimum period for which performance guarantee to be given and the

alternative method to ensure the warranty period exceeding 2 years will be decided during the negotiation with the successful tenderer.

Payment:

21. On successful completion of supply to the satisfaction of the Fire & Rescue Services Department and on receipt of the invoice bill in triplicate, 100% payment will be settled immediately. If the tenderer is from abroad, payment terms for imports shall be based on standard terms of international trade and the payment will be effected through irrecoverable letters of credit drawn on banks as per the rate fixed as per negotiation.

Others:

22. The tenderer should furnish details of orders executed for Government Departments / Departments / autonomous boards etc., and details of orders on hand or pending execution. Certificates in proof of these should also be furnished.

23. The Director of Fire & Rescue Services Department, Chennai, acting on behalf of the Governor of Tamil Nadu or any other authority empowered in this matter shall have the right of rejecting any tender without assigning any reason for doing so.

24. The proposed quantity to be procured in respect of each item is mentioned in the tender document in relevant page. However, the Director of Fire & Rescue Services Department, Chennai or any other authority empowered shall have the right or requiring a successful tenderer to supply a greater number or reduce the number than the number or quantity mentioned in the schedule.

25. Tenders will be liable to rejection for the following reasons apart from any other reasons mentioned anywhere else in this document.

- a. If the country of manufacture and of the origin of material used in manufacture of articles is not noted in the tender.
- b. If the tender is not in the form supplied by this Office or downloaded from the departmental website.
- c. If the offer is not as per the specifications mentioned in this tender document.
- d. If samples of / models of articles quoted are not submitted as and when required for technical evaluation test.
- e. If the tender is not accompanied by the receipt of Earnest Money.
- f. If the tenderer enters any restriction on other conditions in his tender.
- g. If the tenderer enters one rate in figures and another in words and declines to abide by the lower of the two.
- h. If the tenderer alters the period of supply or expunges any clause in the form of tender, and
- i. If the tender is presented without signature.

Reservation of rights

26. The authority competent reserves the rights:-

(1) The Tender Inviting Authority may extend the last date and time for receiving tenders after giving adequate notice to all intending tenderers in cases where:-

- (a) the publication of the tender notice has been delayed
- (b) the communication of changes, in the tender documents to the prospective tenderers took time
- (c) any of the tenderers requested clarifications communication of which took time to all the tenderers and
- (d) any other reasonable grounds exist, for such extension which shall be recorded in writing by the Tender Inviting Authority.

(2) If at any stage, a technical flaw is noticed in following the procedures, the procuring entity will take appropriate decisions to ensure that the overall objective of procurement is not defeated.

(3) After negotiation with the tenderer and before passing the order accepting a tender, if the Tender Accepting Authority decides that the price quoted by such tenderer is higher by the percentage as may be prescribed over the schedule of rates or prevailing market rates, the tender shall be rejected.

(4) The Tender Accepting Authority before passing the order accepting a tender, may also reject all the tenders for the reasons such as changes in the scope of procurement, lack of anticipated financial resources, court orders, accidents or calamities and other unforeseen circumstances.

(5) The purchaser reserves the right to:-

- (i) vary the quantity finally ordered to the extent of 25% indicated in the Tender document.
- (ii) To split the tender quantity and place orders on one or more than one firm to meet the delivery requirements.
- (iii) Recover losses, if any, sustained by this Department, from the supplier who pleads his inability to supply and backs out of his obligation after award of contract. The EMD and the Security Deposit paid shall be forfeited.
- (iv) To cancel the orders for not keeping up the delivery schedule.
- (v) To award contract to one or more tenderers in respect of each item covered by the tender.
- (vi) To reject any or all the tenders without assigning any reasons therefor.
- (vii) To relax or waive or modify at his discretion any of the condition /

specification in the interest of the Department.

- (viii) The decision of the tender accepting authority in this regard shall be final, conclusive and binding on the supplier.

Certificates and Details to be furnished

27. Latest sales tax verification certificate should also be appended with the tender document.

28. The following certificates should also be furnished, if

- i. Valid NSIC Registration Certificate, if registered under NSIC
- ii. Valid SSI Registration Certificate, if registered under SSI

CERTIFICATE BY THE TENDERER

I / we have gone through the terms and conditions and will abide by them as laid down above and in other sections of this Tender document.

I / We hereby declare that the particulars furnished by us in this offer are true to the best of my / our knowledge and we understand accept that, if at any stage the information furnished are found to be incorrect or false, we are liable for disqualification from this tender and also liable for any penal action that may arise due to the above.

**Signature of the Tenderer
with Date and Seal.**

PRICE BID FORMAT FOR SUPPLY OF “ GROUP-I- Walkie Talkie and Wireless sets”

(Note: To be furnished in “ ENVELOPE –B”)

(Price bid for different makes/models should be furnished in a separate sealed cover. This format may be Xeroxed for furnishing price bid for different make/ models)

S.No	Name of the item required as per tender	Mention the following in respect of your offer: i) Description of article ii) Make and Model capacity iii) Country or origin of the article or components (Note: Separate price bid should be given for each make/model if more than one make/model of any of the item)	Basic price	Sales Tax	Other taxes, levies, charges including Customs duty, Excise duty and transportation charges etc. (specify the type of tax/charge and the amount for each such item)	Total including Sales Tax and all other taxes and levies and charges	Quantity as per tender	Grand Total for entire quantity including all other taxes, levies and charge and Sales Tax.	Please mention if any discount is offered	Other details terms, terms, and delivery sche
1	VHF Digital Handheld set with accessories (Walkie Talkie sets-GP 328 models or its equivalent or high standards)						50			
2	VHF Digital Mobile set with accessories (Mobile Wireless sets-GM 338 models or its equivalent)						60			
3	VHF Digital Static set with accessories (Static wireless sets- GM 328 models or its						40			

Please answer the following questionnaire	
(i) Whether you are quoting concessional sales tax? if so, mention authentication for the same.	
(ii) If the authentication mentioned by you is not acceptable one, what will be the tax component to be taken into account in evaluating the price bids	
(iii) If the order is placed on you, whether you will obtain a separate frequency and licence on behalf of this Department from WPC on actual cost basis.	

Signature of the Tenderer with seal

