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No.IV-17017/13/06-Prov.I
Ministry of Home Affairs
Prov.I

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New Delhi the 28th June,2006

To

The DGs:Assam Rifles/BSF/CISF/CRPF/ITBP/NSG/SSB/BPR&D.

Subject: Finalization of QRs/Specifications for
Weaponary/security Equipments

The Sub-Group constituted by MHA vide Memorandum No. IV.17017/18/2001-Prov.I dated 5-7-2002 for laying down QRs/specifications of various items/equipments has since submitted its recommendations in respect of following weaponary/security equipments:

- (i) UHF Handheld Radio Set Digital (25W)
- (ii) UHF Mobile Radio Set Digital
- (iii) UHF Light Weight Repeater Digital (25W)
- (iv) UHF Repeater 100 Watt

2. These recommendations have been accepted by MHA. The QRs finalized by the Sub-Group and accepted by MHA in respect of the above communication equipments are enclosed herewith.

3. Henceforth, all the CPMFs should procure the above-items required by them to meet their operational needs strictly as per the laid down QRs/specifications.

Yours faithfully,

Alok

(Alok Mukhopadhyay)
Under Secretary(Prov.I)
Tele. No.23381278

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Copy to : DD(Procurement), MHA

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- 1. PS to JS(PM), MHA
- 2. Dir(Prov), MHA

**THE QUALITATIVE REQUIREMENTS (QRS) FOR UHF MOBILE
RADIO SET (DIGITAL)**

| Technical Specification | Qualitative Requirements |
|---------------------------------------|---|
| <u>GENERAL</u> | |
| Frequency Range | 403-430 MHz |
| Number of Channels | 256 Higher |
| Channel Spacing | 12.5KHz selectable to 25 KHz |
| Frequency stability | +2.0 ppm or better |
| Type of Emission | Analog - FM Digital - Fully APCO 25 open standard compliance which is not proprietary of a particular manufacturer. |
| Type of Operation | Simplex Press to talk |
| Weight | Without external battery and aerial to be less than 3 Kgs |
| Power source | (i) DC Voltage : 12V \pm 10% (ii) AC Voltage : 230V \pm 10%)at 50Hz \pm 2% with option for trickle charging of backup battery. |
| Protection | (i) Reverse polarity protection . (ii) Protection against high VSWR. |
| <u>TRANSMITTER</u> | |
| RF Power Output | Variable up to 40 Watts or higher |
| FM Hum Noise | (i) 25 KHz : 40 dB or better (ii) 12.5 KHz : 35 dB or better |
| Frequency Deviation | (i) 25 KHz : maximum \pm 5 KHz (ii) 12.5 KHz : maximum \pm 2.5 KHz |
| Modulation sensitivity | 2-10 mV at 1 KHz mic input for \pm 1 KHz standard deviation for 12.5 KHz channel and \pm 3 KHz standard deviation for 25 KHz channel. |
| Modulation distortion | Less than 5% at 1KHz for \pm 1.5 KHz (12.5KHz channel) and \pm 3KHz (25KHz channel) standard deviation. |
| Modulation Fidelity | +1, -3 dB of 6 dB / Octave pre-emphasis from 300-2700Hz at 1 .KHz reference. |
| Audio Distortion | Less than 3% @ 1KHz |
| <u>RECEIVER</u> | |
| Sensitivity | (i) Analog : 0.30 μ V for 12 dB SINAD or better (ii) Digital : 0.30 μ V for 5% BER or better |
| Squelch Sensitivity | 0.25 μ V or better at threshold |
| Selectivity (Adjacent Channel) | (i) Analog : 82 dB or less (ii) Digital : 75 dB or less |
| Image rejection | 75dB or better |
| Inter modulation | 75 dB or better |
| Audio Out put | 2 –8W at 5% distortion for frequency 300 to 3000 KHz |
| Audio response | +1,-3dB of 6dB/Octalve pre- emphasis from 300 to 3000 Hz Less than 3% at 1 KHz |
| <u>ENVIRONMENTAL</u> | |
| | Operating Temperature: -10 °C to + 55°C |
| | Storage Temperature : -40 °C to + 85°C |
| | Humidity -90% at 50°C (per Mil standard 810 E) |

OTHER CONDITIONS

- (a) Bidder to indicate the customer care centers across India for after sale warranty support.
- (b) Warranty for 3 years
- (c) Should provide after sale support, supply of spares for at least 6 years after warranty period.
- (d) The firm should enclose DOT /WPC license for using radio equipment in India.

7. Field Trial

- (a) One repeater sets for 07 days to be provided for field trial on "no cost no commitments" basis to ascertain the users satisfaction before the proposal is accepted.
- (b) All the technical features / specification will be tested during trials.



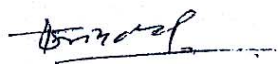
Kamlesh Deka
IG (Comm), BSF



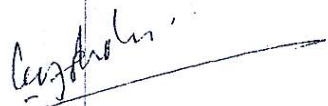
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