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Government of India
Ministry of Home Affairs

26, Man Singh Road, Jaisalmer House,
New Delhi, 9.7.2009


To

✓ The Director General, NSG

Subject:- Technical Specifications/QRs of (i) Target System For Jungle Lane Shooting Range in Training Centre, NSG, Manesar, and (ii) Interactive Live Fire Digital Target System at the Under Ground Virtual Shooting Range(UVSR) Training Centre, NSG, Manesar.

The Technical Specifications/QRs of (i) Target System For Jungle Lane Shooting Range in Training Centre, NSG, Manesar, and (ii) Interactive Live Fire Digital Target System at the Under Ground Virtual Shooting Range(UVSR) Training Centre, NSG, Manesar, as per Annexure, has been accepted by the Competent Authority in MHA.

2. Henceforth, NSG should procure the above items required by them strictly as per the laid down Technical Specifications/QRs.


09/07/09

(R.S.Sharma)
Director (Prov)

DK

Copy to:-

DGs: Assam Rifles/BSF/CISF/CRPF/ITBP/SSB/BPR&D/DD(Procurement),MHA

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PS to JS(PM),MHA

Deal

Interactive Live Fire Digital Target System at the Under Ground Virtual Shooting Range(UVSR) Training Centre, NSG, Manesar.

Introduction

1. A complete solution for installation functioning and maintenance of Interactive Live Fire Digital Target System, hereafter referred to as Digital Target System or the DTS is required for the Underground Virtual Shooting Range (UVSR) at Training Centre, NSG, Manesar.
2. The DTS will encompass virtual targets on a screen, bullet traps (butt), ricochet proofing, lighting, sound proofing, related IT hardware/ software, PA system and setting up the control room at the UVSR

UVSR Dimensions

3. The UVSR is 25 m by 4.5 m with a depth of 6.5 m. The mode of entry is through a opening on the roof by slithering and through a stair case. A Control room overlooking the entire range to monitor and conduct all the proceedings of the shooting practices will also be made available.
4. The UVSR is designed for firing by MP-5 and 9mm Glock Pistol and Stun grenade. The detailed specification and drawings can be obtained from the THQ, Training Centre, NSG Manesar, Haryana, PIN 122 051.

Interactive Live Fire Digital Target System (DTS)

5.General. The DTS should enable engagement of targets at various ranges (virtual) in varied scenario by live fire from Carbine MP-5 and Glock Pistol.

6.Shooting Screen. The dimensions of the screen should be wide enough to cover the maximum area of the range provided it be seen clearly from appropriate distance and keeping with the picture quality and contrast. The size of the screen will be specified by the user depending on the size of the room. The shooting screen should be capable of taking a minimum of 20,000 live bullet hits before being changed or should be a self sealing screen or any other technology which enhances the life of the screen.

7.Bullet Trap. A suitable system of 'Firing Butt' to trap the bullets at the far inside end of the range. The 'Firing Butt' should enable recovery of the bullets rather than the bullet getting embedded to minimize the risk of lead contamination within the range. The Firing Butt should cover the area behind the targets in a manner that it absorbs all hits fired on the target configuration given in the 'Target Specifications'

8.Bullet Proofing. The interior of the UVSR to include the wing walls, roof and floor will be bullet proofed. The control room will have number of upto 5 feet by 5 feet bullet proof glasses to enable all round observation. All equipment being utilized for the virtual target system and the lights will have to be appropriately bullet proofed in manner to prevent damage by bullet hits.

9.Ventilation. A suitable air cooled ventilation system adequate to cool interiors of two compartments and the control room of the UVSR is required to be installed.

10. Interactive Scenarios

- (a) Pre-programmable Scenarios suited to Indian conditions that can be digitally projected on the shooting screen at the behest of the instructor from the control room range floor and if possible should include the following contingencies :-
- (i) Air port (arrival/departure, waiting lounge).
 - (ii) High rise building (lifts/stair case, room etc).
 - (iii) Counter Insurgency Operations in jungle.
 - (iv) Aircraft – Boeing 47 and Airbus.
 - (v) Crowded market place.
 - (vi) Underground mass transit system like the metro.
 - (vii) Mobile VIP security.
- (b) The targets in the above contingencies should be depicted at various ranges of 10m, 25m, 50m, 75m and 100m.
- (c) The programme should have suitable indication of hostile target or friendly subject of being hit (partially wounded, wounded and dead) by bullet of the practice firer.
- (d) If possible the system should enable shoot back at the firer forcing the practice fire to take precautionary and evasive measures.
- (e) The termination of the practice on neutralization of the stated targets should be suitably indicated eg by audible beeps/lights/ending of screen show.
- (f) Each practice should provide programmable multiple options from one minute to ten minutes.
- (g) The system should be able to take on additional scenarios and enable modifications of existing scenario programmes if required.
- (h) Image and effect created by the digital scenario should be such that the practice firer should get a feel of being part of the scenario.

11. **Acoustic Reduction System.** A suitable sound absorbing paneling of the range interiors to minimize the sound of gun fire is required. 25 pairs of noise reducing ear muffles with adjustable left and right arms will also be included.

Control Room

12. The control room should have facilities for controlling the activities of the practice firers, switching on/off the virtual target displays and audio controls. These would include the following :-

- (a) Master controls for the scenario and target display.
- (b) Controls for the ventilation system.
- (c) PA system with speakers in each compartment of the UVSR and one above the roof. The speaker on the roof will be elevated by galvanized pipe stand and protected by a wire mesh on all sides with 1 feet extension of all sides on the top. The top/cover should be of suitable galvanized iron sheet.
- (d) One master computer with a printer capable of computing individual firing results.
- (e) Necessary MCB for each of the electrical/electronic subsystem. All switches for the lights with a toggle switch for one over head light the range wall and in the control room.
- (f) **Visitors Gallery.** A visitors gallery will also form part of control room with seating for four and a centre table.

(g) **Power Supply.** A suitable noiseless generator from a reputed Indian manufacture that is capable of taking the operational load of the UVSR is required to be installed under a tin shed shelter.

13. Installation Warranty and Maintenance.

- (a) Post installation warranty for upto five years renewable for another five years or as decided at that point.
- (b) Annual and daily maintenance commitment for at least 5 years renewable for another five years or as decided at that point.
- (c) MTTR and MTBF should be clearly committed for in the tender.

14. Miscellaneous

- (a) The software being supplied should be windows' based.
- (b) The IT hardware including peripherals and monitors should from a reputed company readily available in India.
- (c) All monitors should be TFT and upto 19 inches.
- (d) Suitable computer chairs from reputed national manufacture numbering four will also be included in control room.

15. **Lighting.** Adequate lighting arrangements to be provided.