





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

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New Delhi the 1st September,2006

To

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

Subject: Finalization of QRs/Specifications for Weaponary/securityEquipments

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) Deep Search Mine/Metal Detector

- ii) Infantry Weapons Effect Simulator System(IWESS)-
- 2. These recommendations have been accepted by MHA. The QRs finalized by the Sub-Group and accepted by MHA in respect of the above 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,

1105M-

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

copy to: DD(Procurement), MHA

Copy for information to:

1. PS to JS(PM), MH

2 Dir(Prov), MHA

Appendox A:

WEAPONS EFFECT SIMU (IWESS)

GENERAL

The system should be able to withstand the vagaries of all type of climates including altitudes of 10,000 feet, temperature from - 10 to 50 degree Centigrade and weather conditions such as rain, fog, dust, snow during day and night time.

Capable to simulate effect of 7.62mm GM(MAG), 7.62mm LMG, 5.56mm INSAS LMG, 7.62mm SLR, 5.56mm INSAS Rifle, 7.62mm SSG-69, CM 9mm and

7.62mm AK-47/AKM.

Capable to handle upto 100 trainees together/individually. (iii)

Be capable of real time tracking of movement of all participants as mentioned

at Ser-(iii) above, in 2x2 Kms area of exercise.

(May also provide visual display of area of exercise on instructor control unit. Should also

Should provide for 03 years warranty period including 100% repair and refit in (vi) situ, followed by repair and maintenance on payment for 10 years or on AMC basis.

Provide for training of 05 personnel per set of equipment free of cost. (vii)

Should provide for low battery indicator on all sub systems. (viii)

System should not get activated due to firing of other weapons in near vicinity (x)or due to use of bicat strips and crackers.

Software backup to be provided on a CD.

TRAINEES' <u>HARNESS</u>

- Should be light weight, easy to wear and merging with standard camouflage dress. Weight should not exceed 2000 gms.
- Should not interfere in any manner with the normal handling of 7.62mm GM(MAG), 7.62mm LMG, 5.56mm INSAS LMG, 7.62mm SLR, 5.56mm INSAS Rifle, 7.62mm SSG-69, CM 9mm, 7.62mm AK-47/AKM and web equipments carried during operations.
- Should be tamper proof and indicate tamper, if attempted by trainees. (iii)
- Be capable of differentiating between kills and injuries. (iv)
- Should de-activate the weapon of the trainee after registering a kill. (v)
- The battery should be replaceable/rechargeable and last for a duration of min 48 hours of continuous use after recharge/replacement.

(vii) The censor should be sensitive enough to record laser beams fired from distances at par with the effective range of standard small arms being used in the force i.e.:-

\	<u>S/No</u> .	Range	Weapon
J. J.	(a)	Upto 1000 Meters	GM(MAG)7.62mm &7.62mm LMG on Tripod
	(b)	Upto 800 Meters	5.56mm INSAS LMG and 7.62mm SSG-69
28	(d) (e) (f)	Upto 500 Meters Upto 400 Meters Upto 300 Meters Upto 100 Meters	7.62mm LMG on Bipod 5.56mm INSAS Rifle 7.62mm SLR and AK 47 CM 9mm



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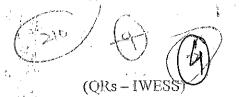
Software backup to be provided on a CD. (x)

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- (viii) Should provide for registering hits from 360 degrees all around, both on the body and head.
- (ix) Should provide audible indications to the wearer about registering of a kill or injury separately.
- (x) Should be rugged enough to withstand stress caused due to activities like quick running, debussing, crawling, jumping from heights upto 12 feet, adopting lying position and rolling over.

INSTRUCTOR CONTROL UNIT

- (i) Be capable of re-programming the trainees' harness individually upto a distance of 500 meters.
- (ii) Be capable of simulating all battlefield conditions such as Alty and Mor fire, explosion of grenades, IEDs and mines.
- (iii) The power source should be replaceable/rechargeable battery, which should last for 24 hours on standby mode and generate 1000 shots after it is recharged/replaced.
- (iv) Should be programmable for disabling all participants together/individually.
- (v) Should be programmable to get feedback from all trainees harness simultaneously, in groups of any size or individually.

WEAPON ALIGNMENT SYSTEM

- (i) Should be compatible with normal weapon sights of 7.62mm GM(MAG), 7.62mm LMG, 5.56mm INSAS LMG, 7.62mm SLR, 5.56mm INSAS Rifle, 7.62mm SSG-69, CM 9mm, 7.62mm AK-47/AKM, telescopic sight of SSG-69, day light telescope of INSAS Rifle, day light telescope of INSAS LMG, passive night sight INSAS Rifle, passive night sight INSAS LMG and passive night weapon sight of 7.62mm SLR/LMG and KN-250/SIMRAD of SSG-69.
- (ii) Should provide for similar degree of accuracy as achieved during normal zeroing of weapons as shown below: -

Range

	<u>1771.40</u> .	A A ASSETTLE VALUE	se neuman v	
	٧ /.	· ·	100 Yards	20 cms for 5 shots
	(b)	7.62MM LMG	100 Yards	16 cms for 5 shots in single shot mode and 32 cms
				for burst mode.
	(c)	2 222222	55 22 22 22 2	5 cms for 5 shots
•	(d)	5.56mm INSAS Rifle	100 Yards	12 cms for 5 shots
	(e)	5.56mm INSAS LMC	100 Yards	16 cms for 5 shots in single
				shot mode and 32 cms for
			and the	burst mode
	(f)	7.62mm SSG-69	100 Yards	7 cms for 5 shots
	(g)	7.62mm GM(MAG)	25 Yards	4 cms for 5 shots

Group size

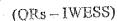
(iii) Should provide real time display of the required correction.

Washmann

(iv) The power source should be replaceable/rechargeable battery, which should last for 48 hours in standby mode or 5000 uses of the alignment systems after recharge/replacement.

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- Should have video monitor to depict real time movement of participants. (i)
- Should have the capability to track movement of participants upto 2x2 kms of (ii) exercise area.
- Should provide for direct communication between the control station and one designated leader in a group of 25 participants.
- Provide for post action analysis of the complete exercise both individually and collectively.
- Should depict co-relation between projector and trainee harness individually, for sub units of programmable strength and the entire group indicating the following: -
 - Two way records of hits or near misses scored/sustained by both (a) groups.
 - Identity and type of weapon used by and against. (b)
 - Number of shots fired from each weapon and hits/misses thereof.
 - Number of reactivations indicating identity of instructor control unit. (c)(d)
 - Attempted tampering with the harness and use of weapons after de-(e) activation.
 - Time of each occurrence. (f)
- Should have the capability of installing printers of all types i.e. Laser, Dot Matrix and Inkjet.
- Should provide for 220 Volt AC Power Supply and rechargeable power unit, which should last for 4-5 hours of use in normal mode and 1-2 hours of printing.
- (viii) CPU of the system should have storage capacity of minimum 80 GB or above, upgradable and compatible with multi media system.

LASER PROJECTOR

(iv)

- Be compatible with all weapons in use in BSF i.e. 7.62mm GM(MAG), 7.62mm LMG, 5.56mm INSAS LMG, 7.62mm SLR, 5.56mm INSAS Rifle, 7.62mm SSG-69, CM 9mm and 7.62mm AK-47/AKM.
- Should have the range for various weapons being used in BSF as under: a (ii)

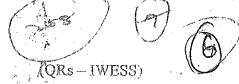
S/No. Rauge	44.6.38 P.O.M.
(a) Upto 1000 Meters	GM(MAG) 7.62mm & 7.62mm LMG on Tripod
(b) Upto 800 Meters	5.56mm INSAS LMG and 7.62mm SSG-69
(c) Upto 500 Meters (d) Upto 400 Meters (e) Upto 300 Meters (f) Upto 100 Meters	7.62mm LMG on Bipod 5.56mm INSAS Rifle 7.62mm SLR and AK 47/AKM CM 9mm
grant he programmable for sing	le / burst shot.

Weapon

11.

Should be programmable for single / burst shot. (iii)

The lasers used in the IWESS should be of class 1 type, eye safe laser & should not be harmful to the human eye even from point blank range.



The laser projector should get de-activated when the trainee is hit by hostile fire.

The power unit should be replaceable/rechargeable battery, which should (vi) last for 24 hours on standby mode and should be able to fire following number of shots in respective weapons: "

S/No.	Weapons		No of Shots
, .		1	
(a)	Rifles and Carbine		100 Shots
(b)	LMGs		750 Shots
(c)	MMG		4000 Shots
4 7			

Should be compatible with normal weapon sights of 7.62mm GM(MAG), 7.62mm LMG, 5.56mm INSAS LMG, 7.62mm SLR, 5.56mm INSAS Rifle, 7.62mm SSG-69, CM 9mm, 7.62mm AK-47/AKM, telescopic sight of SSG-69, day light telescope on INSAS Rifle, day light telescope of INSAS LMG passive night sight INSAS Rifle, passive night sight INSAS LMG, passive night weapon sight of 7.62mm SLR/LMG and KN-250/SIMRAD of SSG-69.

Weight should not exceed 500 gms, mountable on the weapon in such a manner that normal use of weapon is not hampered.

(xi)Should be directly de-activatable by the umpire/instructor.

SINHH OC(MA)

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DIG (ROU)

(Li Col GS Grewers) DGOA/BOACLAS)

LA Col AK Sharmon) 30(MB) MO NSG

LCOT KK KORLIZ GC(245), NSG

ROBERT SLAVERON Ge (Prov), HO NLG

Approved/Not Approved

Dr. GS RAJAGOPAL)

Director General, NSG