

**DIRECTORATE GENERAL NATIONAL SECURITY GUARD**  
**OPERATIONS BRANCH (WE SEC)**

1. Formulation of QRs and TDs for "Kill Hut" as per Appx att are being contemplated.
2. OEM/Firms are requested to forward their comments/suggestions on the draft QRs as per proforma given below alongwith the details (product specifications, pectoral's etc) of their product meeting the referred QRs.
3. It is requested that comments if any on the QRs may please be forwarded to the under mentioned address within 30 days.

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**DRAFT QR & TDs OF KILL HUT**

Ser No	Parameter	QR	TD	Remarks
1	<b>General</b>	A Reflex Shooting Range with designated live fire rooms for room clearance, judgmental and reflexive honing of skills in encountering and overcoming hostile fire, hostage rescue training etc. The soldiers would go from room to room, cleaning it from variety of hostile scenarios.	To be physical checked by BOO	
2	<b>Room-Passage Size</b>	Refer to enclosed layout	To be physical checked by BOO	
3.	<b>Performance</b>	The layout must allow firing of all lead ball munitions up to and including 5.56mm and 9 mm rounds. The entire layout should be ricochet proof.	Vendor to submit certificate from a national/international /NABL certified lab. Authenticity of cert to be verified by BOO	
4	<b>Wall Construction</b>	Armoured wall system consisting of 9-10mm AR500 armoured plate, mild steel structural framing, connection bolts and anchors, and minimum 50mm armoured rubber adhered directly to the inside of the steel surface.	To be physical checked by BOO during OSAT.	
5.	<b>Rubber panels</b>	<p>(a) Dimensions of panel should not be more than 609 mm x 609 mm 50 mm with weight 16 kgs (+/- 10%)</p> <p>(b) Panel should be a mixture of modified high density composite rubber based particles and bonding agents, cold moulded process under high pressure to form dimensionally stable armoured panels and blocks. Weight : minimum 22 kgs per cubic foot. Compression; minimum 3,000 psi</p> <p>(c) Should have bullet stopping power to 3000 fps muzzle velocity on a 300 grain bullet striking with 3,700 foot-pounds of energy.</p> <p>(d) Encapsulates standard handgun and frangible rounds and will defeat armour piecing and non-armour piecing, with appropriate steel armour plate backing Armoured rubber surface with a life of minimum 2000 rounds distributed uniformly over the panel surface area without eroding, deteriorating, or significantly distorting the surface.</p> <p>(e) Rubber must be cold moulded and not vulcanized. Material Test Certificate from an accredited laboratory showing classification of the reaction to fire behavior according to EN 13501-1</p>	Vendor to submit certificate from a national/international /NABL certified lab. Authenticity of cert to be verified by BOO	

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6	<b>Ricochet Protection</b>	<p>(a) 24 " x 24" x 2" (600 mm x 600 mm x 50 mm) shredded rubber tiles (black or brown) shall be attached to the steel plates to provide protection against ricochet and splash back.</p> <p>(b) The tiles to have 1-1/2"/ 38mm air gap between the steel plate and the rubber tiles. This provided a space for the bullet to fragment and fall to the floor and prevents the bullet materials from building up in the rubber tiles.</p> <p>(c) A 1"/25mm gap shall be provided between the floor and the bottom of the rubber tiles.</p>	Vendor to submit certificate from a national/international/NABL certified lab. Authenticity of cert to be verified by BOO	
7	<b>Floor Covering</b>	<p>(a) Floor should be covered by a smooth, uniform and scruff resistant treatment, which can be easily patched or replaced.</p> <p>(b) <b><u>Material Test Certificate</u></b>. Certificate from an accredited ballistic laboratory with certified results of safety against ricochets up to a maximum kinetic energy of projectiles of 700 Joule. Report should give details of shooting distance, angle of fire recorded velocity of ammunition, energy of impact, and the recorded results with pictures of bullet strikes.</p>	<p>To be physical checked by BOO during OSAT</p> <p>Vendor to submit certificate from a national/international/NABL certified lab. Authenticity of cert to be verified by BOO</p>	
8	<b>Acoustic Treatment</b>	<p>(a) Acoustic treatment panels should have a minimum 0.75 Noise Reduction Coefficient (NRC) rating to reduce noise in range.</p> <p>(b) Applied to surfaces in the range, the channeled finish of acoustic panels should disrupt and dissipate sound wave patterns, minimizing gunfire noise.</p> <p>(c) Noise abatement will be carried out by providing acoustic panels on baffles, side-walls and ceiling systems.</p> <p>(d) The finish should be smooth, joint free and withstand frequent cleaning and wet scrubbing with agents to remove and neutralize lead-dust and unburnt propellant.</p> <p>(e) The peak impulse sound should not be greater than 170 Decimals (d3).</p> <p>(f) On an eight-hour time weighted average noise level in the range should not be greater than 85-95 db.</p> <p>(g) The OEM to provide atleast 10 Nos of Hearing Protection Headsets with following specifications for use inside the Kill Hut.</p> <p>(i) Minimum NRR 30 noise protection level.</p> <p>(ii) maximum 1.5 millisecond response time in suppressing loud sounds.</p> <p>(iii) Lower sound automatically amplified up to 50db and louder sounds are reduced.</p>	Vendor to submit certificate from a national/international/NABL certified lab. Authenticity of cert to be verified by BOO	

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9	<b>Panel Connection</b>	<p>(a) Steel panels should have a positive mechanical connection (i.e. bridge lap joint).</p> <p>(b) All bolts to be supplied with locknuts to ensure that they cannot loosen during use of the shoot house.</p> <p>(c) The adjacent plates should be butt tight together with the seam covered on both side by a minimum ¼"/6mm mild steel plate.</p>	To be physical checked by BOO during OSAT.	
10	<b>Finish Painting</b>	All exposed steel surfaces, i.e. those not covered by rubber tiles, shall receive a finish coat of black enamel paint.	To be physical checked by BOO during OSAT.	
11	<b>Target System (8 Nos)</b>	<p><b>(a) Wall mounted moving target (WMMT) should comprise of the following:-</b></p> <p>(i) Wireless Wall Mounted Moving target (WMMT) Machine.</p> <p>(ii) Range Controller.</p> <p>(iii) Batteries &amp; Charging system.</p> <p><b>(b) Material.</b></p> <p>(i) Stainless steel or similar material body with IP 67 or higher standard.</p> <p>(ii) The target should be compatible with infrared proximity sensor and portable speakers to recreate battle atmosphere.</p> <p><b>(c) Target Reaction.</b> The WMMT should have the following features:</p> <p>(i) WMMT should be wall mounted and should be able to move in the vertical or horizontal mode for the exposure of the target profile.</p> <p>(ii) The WMMT mechanism should have two exposure settings that allow for the target to be half (firing from cover) or fully exposed.</p> <p>(iii) Target should be able to go from half exposed to fully exposed without the need to reset back to home position.</p> <p>(iv) The design of this target should allow the user to position it upright/sideways /upside down a wall/concrete structure. It should have suitable mounting brackets.</p>	<p>To be physical checked by BOO during OSAT.</p> <p>Vendor to submit certificate from a national/international/NABL certified lab. Authenticity of cert to be verified by BOO.</p> <p>OEM to demonstrate and same to physically checked by BOO.</p>	

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		<p>(d) <b>Power</b></p> <p>(i) 12V battery with minimum 5 hours usage once fully charged.</p> <p>(ii) Recharge time 3 hours maximum.</p> <p>(iii) Weights: 3-5Kg.</p> <p>(e) <b>Wireless Remote Control</b></p> <p>(i) Remote control should be able to control 12 targets individually or collectively.</p> <p>(ii) Should show target battery status.</p> <p>(iii) Switch off target remotely.</p> <p>(iv) Designate each target with target ID No.</p> <p>(v) Programmable by computer.</p> <p>(vi) Weight 500Gm. (<math>\pm 10\%</math>).</p> <p>(f) <b>Warranty</b> One year applicable from the date of installation.</p> <p>(g) <b>Training</b> On site for two days from the date of installation.</p>	<p>OEM to demonstrate and same to physically checked by BOO.</p> <p>Vendor to submit certificate to this effect.</p> <p>Vendor to submit certificate to this effect.</p>	
12.	<b>Lighting</b>	<p>(a) Uniform light levels over the entire range area and adjoining areas installed in a symmetrical arrangement.</p> <p>(b) Shooters lighting.</p> <p>(c) Night Simulation.</p> <p>(d) Service and Maintenance Lighting.</p> <p>(e) Provide for safe loading and handling weapons under all circumstances.</p>	OEM to demonstrate and same to physically checked by BOO.	
13.	<b>CCTV System/Control room</b>	<p>(a) Complete CCTV system with at least XX cameras to clearly watch live footage and record live firing in the reflex shooting rooms with recording DVR system, installed in the control room, as shown in layout.</p> <p>(b) 42" LED TV for use with CCTV system.</p>	<p>OEM to demonstrate and same to physically checked by BOO.</p> <p>Vendor to submit certificate from a national/international/NABL certified lab. Authenticity of cert to be verified by BOO.</p>	

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14.	<b>Minimum Eligibility Criteria</b>	<p>(a) The shoot house, its components and the portable target systems should be from the same OEM/Manufacturer. The OEM should have supplied similar live fire training facilities as per the given specifications to other organization. Proof of such supplies will have to be enclosed to be Considered for placement of order.</p> <p>(b) Functional live demonstration to be given for all items/components during the stage of technical evaluation. At least 1000 rounds will be fired to check for consistency with above parameters on a surface measuring no more than 10 sq. ft.</p> <p>(c) Submission of material test certificates along with a sample of a finished wall panel is mandatory.</p>	<p>Vendor to submit certificate to this effect.</p> <p>Vendor to submit certificate from a national/international/NABL certified lab. Authenticity of cert to be verified by BOO.</p>	