

भारत सरकार, गृह मंत्रालय  
महानिदेशालय सीमा सुरक्षा बल  
(रसद निदेशालय: आधुनिकीकरण सैल)  
(Email-comdtord@bsf.nic.in)  
(Fax: 011-24367683)

ब्लाक संख्या . 10,  
सीजीओ काम्पलैक्स,  
लोधी रोड, नई दिल्ली-03

दिनांक 01 फरवरी 2021

वरिष्ठ तकनीकी निदेशक

The Senior Technical Director

राष्ट्रीय सूचना-विज्ञान केन्द्र, नोर्थ ब्लॉक,

गृह मंत्रालय, नई दिल्ली

NIC, North Block, MHA

New Delhi

(द्वारा ई-मेल)

(ई-मेल पता : [mpsugandhi@nic.in](mailto:mpsugandhi@nic.in))

Sub: **Request for comments of stakeholders/OEM on draft QRs.**

कृपया गृह मंत्रालय के पत्र संख्या IV-24011/12/2011-Prov-I(part)(CFN 3300890)-1710 दिनांक 31<sup>st</sup> Aug 2015 के सन्दर्भ में।

2. उपरोक्त विषयान्तर्गत यह सूचित किया जाता है कि **"12.7mm x 99mm Sniper Rifle, Weapon based day optical sight and Weapon based Thermal Imaging Sight (Un-Cooled Version) for 12.7mm x 99mm Sniper Rifle"** के गुणात्मक आवश्यकता/परीक्षण निर्देशों को इस आशय से प्रेषित किया जा रहा है कि उक्त गुणात्मक आवश्यकता/परीक्षण निर्देश को गृह मंत्रालय की वेबसाइट पर 15 दिन के लिए अपलोड करने का श्रम करें।

संलग्न : उपरोक्तनुसार

(दिनेन्द्र सिंह पेंवार)

उप कमाण्डेंट (मोड)

प्रतिलिपि :-

1. SO (IT), North Block, MHA  
(Through E-mail)  
(E-mail address: [soit@nic.in](mailto:soit@nic.in))

: उपरोक्त गुणात्मक आवश्यकता/परीक्षण निर्देश का मसौदा आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु।

2. IT Wing, FHQ BSF

: i) उपरोक्त गुणात्मक आवश्यकता/परीक्षण निर्देश का मसौदा सीमा सुरक्षा बल की वेबसाइट पर 15 दिन यानि 16 फरवरी 2021 तक अपलोड करने के लिए प्रेषित की जा रही है। उक्त मसौदे को सीमा सुरक्षा बल की वेबसाइट से दिनांक 17 फरवरी 2021 को हटाने का श्रम करें। आपसे अनुरोध है कि उक्त मसौदे को निम्नलिखित पतों पर ई-मेल करने का भी श्रम करें:-

(a) Technical Director, NIC, North Block, MHA

(E-mail : [mpsugandhi@nic.in](mailto:mpsugandhi@nic.in))

(b) SO (IT), North Block, MHA

(E-mail : [soit@nic.in](mailto:soit@nic.in))

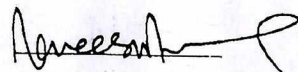
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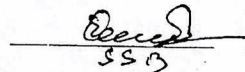
वास्ते सूचनार्थ।

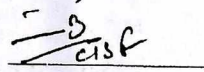


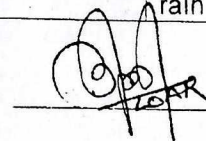
**DRAFT QRs /TDs FOR WEAPON BASED DAY OPTICAL SIGHT FOR 12.7mmx99mm SNIPER RIFLE**

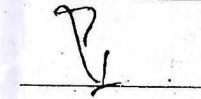
S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
	<b>GENERAL DESCRIPTION</b>		
1.	(a) Compact, Easy to mount and quickly deployable on 12.7mm X 99mm sniper rifle.	To be physically checked by the BOO.	Sight must be Easy to mount and quickly deployable 12.7mmx99mm sniper rifles
	(b) Should be rugged for operations under high & low temperature, humidity, shock, vibration, bump and rain test as per 810H MIL STD and IP 67 or better.	Firm has to submit national / international accredited lab certificate. if no such lab available in India then, firm has to submit any Indian Govt Lab/ OEM certificate in respect of the same.	BOO to check the certificate as per the standard in QR
	(c) Weight: 1.5 kg or less with, OG Cap Eye guard without mounting.	To be physically checked by the BOO.	Weight of the system must be 1.5 kg or less with, OG.cap, Eye guard.
	(d) <b>Storage Case:</b> A ruggedized Polypropylene shock proof container compliant to IP-67 or better and Mil Std 810H or better for transportation. An additional water proof soft carrying case with shoulder strap be provided.	<p>(a) Drop the container with equipment &amp; all accessories from a height of 03 meters on a hard surface.</p> <p>(b) The Firm should submit National/International accredited Lab Test report/certificate in respect of ruggedized Polypropylene Shock proof storage case.</p> <p>(c) Soft carrying case for water proofing.</p>	<p>(a) Transportation case should not be deformed and have any crack. Eqpt should work properly.</p> <p>(b) The firm should provide National/International Accredited lab certificate/report in respect ruggedized polypropylene shock proof storage case. In case any doubt in the test report, the veracity of the same may be checked from the concerned lab.</p> <p>(c) Soft carrying case for dust and rain protection must be provided.</p>

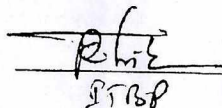


  
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**DRAFT QRs/ TDs FOR WEAPON BASED DAY OPTICAL SIGHT FOR 12.7mmx99mm SNIPR RIFLE**

S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
2.	<b>TECHNICAL SPECIFICATION:</b>		
	1. Field of view: 5° (Maximum)	OEM should produce certificate supporting the specified parameters.	FOV limits of the system must be as mentioned in the QRs.
	2. Magnification: 24 X Optical Zoom : 12x or better	OEM to demonstrate the magnification and give certificate.	Magnification limits of the system must be as per QRs.
	3. Controls: (a) Focus control (b) Elevation or vertical adjustment of the reticule (c) Windage or horizontal control of the reticule (d) Magnification control (e) Illumination adjustment control of the reticule (f) Humidity and altitude control	To be physically checked by the BOOs.	Vendor to demonstrate all the controls before the board.
	4. Reticule: Fine Cross hair with centre dot. The reticule pattern should provide the scale of different range i.e, 200, 600, 1000, 1400 & 1800 meters for 12.7mmx99mm sniper rifle.	To be checked by the BOO	Reticule must be Fine cross hair with range estimation.
	5. Adjustment and zeroing: 6. There should be a facility of Azimuth & Elevation adjustment in steps of 1 MOA	Physically checked by the BOO	Must be a facility of Azimuth & Elevation adjustment in steps of 1 MOA

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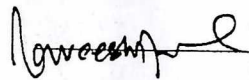
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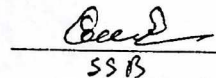
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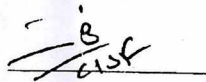


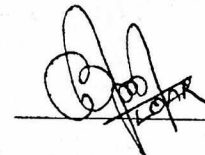
**DRAFT QRs /TDs FOR WEAPON BASED DAY OPTICAL SIGHT FOR 12.7mmx99mm SNIPR RIFLE**

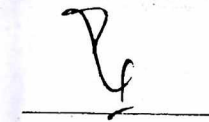
S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
	7. Focusing facility (Manual): 10 mtr to infinity	To be physically checked by the BOO The system should be manually focus on particular targets from 10 mtrs to infinity.	There must be facility of manual focusing from 10 mtrs of infinity.
	8. Diopter adjustment:-2D to +2D or better	Physically checked by the BOO. Measure the diopter adjustment limits with the help of Diopter measuring apparatus. Vendor to provide apparatus for the test	The sight should have diopter adjustment from -2D to +2D or better
	9. Eye Relief :50 mm (min).	Physically checked by the BOO	Eye relief must be 50mm (min)
	10.Parallax compensation: It should have parallax compensation control	To be physically checked by the board	Must comply the QRs
3	<b>Operational</b>		
4	Operating temp Range: a) -40 degree to +55 degree centigrade	To be Checked by the BOO the authenticity and validity National/ International Accredited lab certificate/report submitted by the firm in respect of operating Temp.	The Firm should provide National/International Accredited lab certificate/report in respect of temperature range of para 4(a)& (b). In case any doubt in the test report, the veracity of the same may be checked from the concerned lab.
	b) Storage temp Range: -45° to +70°C	Check the National/ International Accredited lab certificate/report submitted by the firm in respect of Storage Temp.	

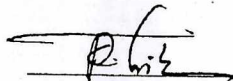


  
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**DRAFT QRs /TDs FOR WEAPON BASED DAY OPTICAL SIGHT FOR 12.7mmx99mm SNIPER RIFLE**

S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
5	<b>Mounting bracket:</b> MIL-STD 1913 Picatinny. The Sight must remain zeroed and stable even after fire of minimum 100 rounds.	(a) Check the adaptor provided and its compatibility with the weapon as defined by the user. (b) Mount the sight on 12.7mm sniper rifle and zero sight with the weapons. Fire 100 rounds as per the procedure and check the zeroing.	(a) A standard well compatible Picatinny rail adaptor must be provided to mount the sight on the user defined weapon. (b) The Sight must remain zeroed and stable even after fire of minimum 100 rounds.
6	<b>Sight locking Mechanism</b> The sight should have stable locking mechanism for quick attachment and detachment with weapon.	(a) Mount the sight on 12.7mm sniper rifle and lock the mechanism with lever (b) Check the sight locking mechanism for quick attach and detach with the weapon. Check the stability of the lever locking mechanism during testing.	(a) The sight must have lever locking mechanism to mount it on the weapon. (b) The sight must quickly attach & detach with the weapon. (c) Lever locking mechanism must keep the mount stable on the weapon during firing.
7	<b>Weapon Mount Adaptor:</b> Suitable weapon mount adaptor should be provided, with each sight to enable mounting on 12.7mmx99mm sniper rifle.	To be physically checked by the BOO	Must be suitable Weapon mount adaptor.
8	<b>Accuracy and consistency:</b> Less than one minute of angle (MOA) at 100m i.e grouping fire of five rounds not exceed one inch.	To be physically checked by the BOO	System must be able to fire accurate as per QRs.

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## DRAFT QRs AND TRIAL DIRECTIVES FOR SNIPER RIFLE (SEMI AUTOMATIC)

1.	OPERATIONAL PARAMETERS		
	SPECIFICATIONS	PARAMETERS	TRIAL DIRECTIVES
(a)	Calibre	12.7 X 99mm	To be physically checked by BOO with gauge provided by OEM
(b)	Weight of the Sniper Rifle	Should not exceed 13 kgs without Magazine & Telescopic sight	To be physically checked by BOO
(c)	Firing Mode	Single shot semi-automatic	To be physically checked by BOO
(d)	Effective Range	Should be min. 1500 mtr.	Weapon should effectively hit the target upto the range of 1500 Mtr
(e)	Accuracy	Less than one minute of angle (MOA) at 100 mtr i.e., grouping fire of 5 rounds not exceed one inch. Accuracy test will be conducted by the ammunition provided by the firm.	<p>(i) For testing accuracy figure 11 target (40 cm x 70 cm) will be used and the weapon has to make a group at 100, 200 and 300 mtr at figure 11 target of one inch, two inch and three inch respectively. The inner rectangle of the target will be the point of aim.</p> <p>(ii) Accuracy test will be carried out during field functional trial and the firing will be carried out by the firers of the OEM. The use of spotter will be permitted along with the shooter. The OEM will also provide details of telescope used by the spotter.</p> <p>(iii) Accuracy test will be conducted by the OEM ammunition.</p>

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# DRAFT QRs AND TRIAL DIRECTIVES FOR SNIPER RIFLE (SEMIAUTOMATIC)

OPERATIONAL PARAMETERS		
SPECIFICATIONS	PARAMETERS	TRIAL DIRECTIVES
(f) Environmental Conditions	Sniper rifle should be capable of trouble free operation after being stored under following conditions:  -40 Deg C to +55 Deg C  -45 Deg C to +70Deg C  95% Relative Humidity	OEM to provide certificate from a national/international accredited lab. OEM to provide contact person details, phone number, address, e-mail address & website of the lab. Authenticity and validity of certificate must be confirmed by the BOO.
(i) Operating Temperature		
(ii) Storage Temperature		
(iii) Humidity		
(g) Colour	As per user requirement.	To be demonstrated by OEM & physically checked by BOO.
2. Physical Parameters		
(a) Muzzle Brake	Sniper rifle should be equipped with detachable muzzle brake & sound suppressor with suitable threading so that both the attachment can be used together as well as separately. There should be compatible threading over the sound suppressor to attach or detach muzzle brake if used.	To be physically checked by the BOO.
(b) Picatinny Rail	Mil Standard 1913 Picatinny Rail integrated with the weapon on 9,12,3 & 6 O' Clock position ( 550mm or more in length)	To be physically checked by BOO.

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2. Physical Parameters			
SPECIFICATIONS		PARAMETERS	TRIAL DIRECTIVES
(c)	<b><u>Barrel</u></b>		
	(i) Barrel type	Rifle should have free floated barrel with provision for heat dissipation. Muzzle should have adequate arrangement for easy & quick attachment of muzzle brake & sound suppressor.	To be physically checked by BOO
	Barrel life	Sniper rifle barrel life should be of minimum 10,000 rounds.	OEM to provide certificate confirming life of barrel.
(d)	<b><u>Sound Suppressor</u></b>		
	(i) Calibre	Sniper rifle should be equipped with detachable sound suppressor ahead of muzzle brake which can be mounted easily and should confirm to calibre of weapon system.	To be physically checked by BOO
	(ii) Attachment	Suppressor should be Direct thread model or quick detach model (which can be mounted above the muzzle brake)	To be physically checked by BOO
	(iii) Capability	Suppressor should be able to suppress sound by at least 30 dB.	OEM to provide certificate from a national/international accredited lab. OEM to provide contact person details, phone number, address, e-mail address & website of the lab. Authenticity and validity of certificate must be confirmed by the BOO.
	(iv) Accuracy Test	Accuracy of the sniper rifle will be carried out with & without suppressor. Point of impact shift when firing with the suppressor should not be more than 2", 4" & 6" at 100m, 200m & 300m respectively.	To be physically checked by BOO

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# DRAFT QRs AND TRIAL DIRECTIVES FOR SNIPER RIFLE (SEMIAUTOMATIC)

3.	MAGAZINE		
SR. NO	SPECIFICATIONS	PARAMETERS	TRIAL DIRECTIVES
	i. Capacity	Capacity of 10 rounds	To be physically checked by the BOO
	ii. Material	Magazine should be made up of steel with non-corrosive surface treatment	OEM to provide certificate.
	iii. Weight	300 Gms. (±10 Gms.)	To be physically checked by the BOO.
	iv. Type	Box Type & should be easy to attach and de-attach. It should not affect the accuracy and firing capability of firer.	To be physically checked by the BOO.
	v. Color	As per user requirement.	To be physically checked by the BOO.
4.	TRIGGER		
	i. Stage	Should have 2 stage pull.	OEM to provide certificate.
	ii. Trigger Pull Force	Should be factory pre-set to any value within 1 2 kg	OEM to provide certificate and to be physically checked by the BOO.
	iii. Adjustment	Capable of adjustments in terms of trigger pressure & path of pull without complete dis- assembling of the weapon.	To be demonstrated by OEM & physically checked by the BOO.

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**DRAFT QRs AND TRIAL DIRECTIVES FOR SNIPER RIFLE (SEMIAUTOMATIC)**

<b>5. BIPOD</b>			
	<b>SPECIFICATIONS</b>	<b>PARAMETERS</b>	<b>TRIAL DIRECTIVES</b>
	Bipod	Bipod should be quick detachable, adjustable in terms of height. Legs of the bipod should be foldable (front or rearwards) & should be locked when folded	To be physically checked by the BOO
<b>6. MONOPOD</b>			
	Monopod	Monopod should be present either as butt spike or integrated with pistol grip to enable the firer to rest the firer and continue to aim/observe the target. The same should be adjustable for height.	To be physically checked by the BOO.
<b>7. EYE RELIEF</b>			
	Eye Relief	Min 50 mm	To be demonstrated by OEM & physically checked by the BOO
<b>8. OPTICAL SIGHT</b>			
		The sniper rifle should be provided with telescopic sight for day light and low light condition.	To be physically checked by the BOO.
	(i) Weight	Not more than 1.5 Kgs. (without mount)	To be physically checked by BOO
	(ii) Mount	Quick detachable & compatible with picatinny rail.	To be physically checked by BOO.
	(iii) Magnification	Minimum: 24 X	OEM to provide certificate from a national/international accredited lab. OEM to provide contact person details, phone number, address, e-mail address & website of the lab. Authenticity and validity of certificate must be confirmed by the BOO.

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# DRAFT QRs AND TRIAL DIRECTIVES FOR SNIPER RIFLE (SEMI-AUTOMATIC)

SR. NO	SPECIFICATIONS	PARAMETERS	TRIAL DIRECTIVES
	(iv) Power source	DC power source. Four spare battery to be included in the tool kit.	To be physically checked by the BOO.
	(v) Night Vision Compatible	Should be compatible with in line with thermal based night sight or clip on sight.	To be physically checked by the BOO.
	(vi) Filters	Following filters for operating in degraded environmental condition to be provided 1) Grey filter 2) Yellow filter 3) Polarising Filter. 4) Kill flash/honeycomb filter.	Individual filters to be demonstrated by OEM & the same to be physically checked by the BOO.
	(vii) Controls	Sight should be equipped with following controls: 1) Focus control. 2) Elevation or vertical adjustment control of the reticule. 3) Windage or horizontal adjustment control of the reticule. 4) Magnification control. 5) Illumination adjustment control of the reticule. 6) Parallax compensation control. 7) Scope guard, carry case sun shield & lens cover to be provided. 8) Accuracy of the sniper rifle will be tested with the telescopic sight.	(i) To be demonstrated by OEM & physically checked by the BOO.  (ii) Accuracy test will be carried out during field functional trials, procedure will be same as mentioned in Para 1(e) above.

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**DRAFT QRs AND TRIAL DIRECTIVES FOR SNIPER RIFLE (SEMIAUTOMATIC)**

S. No	SPECIFICATIONS	PARAMETERS	TRIAL DIRECTIVES
9.	<b><u>MISCELLANEOUS PARAMETERS</u></b>		
(a)	Safety	Both mechanical & applied safety	To be demonstrated by OEM & physically checked by BOO.
(b)	Field Stripping	Rifle should be easy to strip without any tools or with minimum tools, & all cleaning parts to be designed for field cleaning.	To be demonstrated by OEM & physically checked by BOO.
10.	<b><u>ACCESSORIES</u></b>		
	Accessories	<p>Manufacturer of the sniper rifle should provide accessories to include:-</p> <ul style="list-style-type: none"> <li>(i) Five magazines per rifle.</li> <li>(ii) Sound suppressor cleaning kit (one with each rifle)</li> <li>(iii) One Spare Barrel (one with each rifle).</li> <li>(iv) Thermal Night vision device (one with each rifle).</li> <li>(v) Field cleaning kit (one with each rifle)</li> <li>(vi) Standard weapon tool kit (to be specified by the user)</li> <li>(vii) Measurement gauges (to be specified by the user)</li> <li>(viii) Rigid water proof case for transit of weapon (one with each rifle)</li> <li>(ix) Technical literature in English (one with each rifle)</li> <li>(x) Training manuals &amp; user hand book (one with each rifle)</li> <li>(xi) Manufactures recommended list of spares duly priced (to be specified by the user)</li> <li>(xii) Training slides, brochures, video films &amp; CDs (to be specified by the user)</li> <li>(xiii) <b>Complete Equipment Schedule(CES)</b> items to be provided (one set with each rifle)</li> </ul>	Individual accessories to be demonstrated by OEM & physically checked by the BOO.

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**DRAFT QRs /TDs FOR WEAPON BASED THERMAL IMAGING NIGHT SIGHT FOR 12.7 mm X 99mm  
SNIPER RIFLE (UN-COOLED VERSION)**

S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
	<b>GENERAL DESCRIPTION</b>		
1.	(a) Compact, monocular type, Easy to mount and quickly deployable on 12.7mmx99mm sniper rifle.	To be physically checked by the BOO.	Thermal sight must be monocular Easy to mount and quickly deployable 12.7mmx99mm sniper rifle.
	(b) Have capability to produce real time picture.	To be physically checked by BOO on eye piece as well as on external device.	It must produce real time picture.
	(c) Should be rugged for operations under high & low temperature, humidity, shock, vibration, bump and rain test as per 810H MIL STD and IP 67 or better.	Firm has to submit national / international accredited lab certificate. If no such lab available in India then, firm has to submit any Indian Govt Lab / OEM certificate in respect of the same.	BOO to check the authenticity and validity of the certificate as per the standard in QR
	(d) Able to penetrate through fog, smoke, rain, thick foliage and complete darkness.	Switch on the system in different conditions like full dark night, smoke, rain, thick foliage and fog and observe the image through eye piece. For creating the smoke condition BOO should use smoke candles. sight should work in all condition.	Sight must be capable to see through darkness, fog, smoke, rain and thick foliage.
	(e) It should be immune to glare of sun, searchlights or LED lights if faced accidentally.	Switch on the system and direct towards the sun for 1 second. After this system should work properly.	It must not get damaged if faced towards sun, searchlights or LED lights accidentally.
	(f) Weight: a) i) 1.5 kg or less with battery, OG Cap Eye guard.	To be physically checked by the BOO.	Weight of the system must be 1.5 kg or less with Battery, OG cap, Eye guard.

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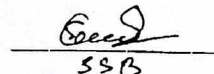
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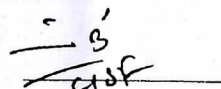


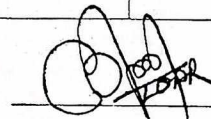
**DRAFT QRs /TDs FOR WEAPON BASED THERMAL IMAGING NIGHT SIGHT FOR 12.7 mm X 99mm  
SNIPER RIFLE (UN-COOLED VERSION)**

S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
	(g) <b>Storage Case:</b> A ruggedized Polypropylene shock proof container compliant to IP-67 or better and Mil Std 810H or better for transportation. An additional water proof soft carrying case with shoulder strap be provided.	<p>The BOO to physically check :-</p> <p>(a) Drop the container with equipment &amp; all accessories from a height of 03 meters on a hard surface.</p> <p>(b) The Firm should submit National/International accredited Lab Test report/certificate in respect of ruggedized Polypropylene Shock proof storage case.</p> <p>(c) Soft carrying case for water proofing.</p>	<p>(a) Transportation case should not be deformed and have any crack. Eqpt should work properly.</p> <p>(b) The firm should provide National/International Accredited lab certificate/report in respect ruggedized polypropylene shock proof storage case. In case any doubt in the test report, the veracity of the same may be checked from the concerned lab.</p> <p>(c) Soft carrying case for dust and rain protection must be provided.</p>
2.	<b>TECHNICAL SPECIFICATION:</b>		
	(a) FPA resolution 640x480 or better.	Firm should produce OEM certificate supporting the specified parameters.	It must have FPA resolution 640x480 or better.
	(b) Spectral range: 7-14 $\mu$ m.	Firm should submit OEM certificate supporting the specified parameters	It must have Spectral range :7-14 $\mu$ m
	(c) Field of view: 7°x 5° (Maximum)	OEM should produce certificate supporting the specified parameters.	FOV limits of the system must be as mentioned in the QRs Para 2 (c).
	(d) Magnification: Digital Zoom : 6X or better	Fix the equipment on ATS in SIW BSF (Acceptance Test Station) and observe the TI image only and measure the magnification.	Magnification limits of the system limits of the must be as mentioned in the QRs Para 2 (d).

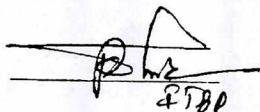


  
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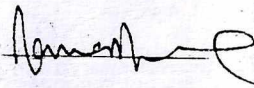
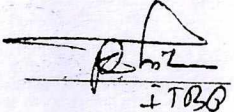
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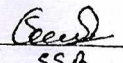

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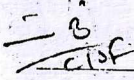


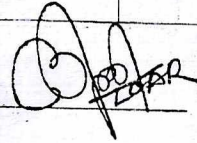
**DRAFT QRs /TDs FOR WEAPON BASED DAY OPTICAL SIGHT FOR 12.7mmx99mm SNIPR RIFLE**


S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
9	<b>Miscellaneous:-</b>		
	1. User Manual	Physically checked by the BOO	User manual must be provided.
	2. Operation Manual/technical Manual -Detailed operators instruction, Technical literature, Maintenance manual, inspection standards be provided with the equipment	Physically checked by the BOO	Operation Manual/technical Manual detailed operators instructions, Technical literature, Maintenance manual, inspection standards must be provided with the equipment.
	3. Warranty: Min. 2 years & life cycle min 20 Years	An undertaking in this regard will be obtained from the firm	Warranty of the system min. 02 years & life cycle min 20 years.
	4. Test station with test equipment for repair and maintenance of the system(Base workshop level) as per user requirement.	An undertaking in this regard will be obtained from the firm	To be checked by the BOO
10	Training: (a) Base workshop level training to minimum 05 technicians on full-fledged running testing, diagnostic and collimation set up.	An undertaking in this regard will be obtained from the firm.	Training as specified must be provided
	(b) Operator level training should be imparted to 50 personnel.	An undertaking in this regard will be obtained from the firm	

  
  
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**DRAFT QRs /TDs FOR WEAPON BASED THERMAL IMAGING NIGHT SIGHT FOR 12.7 mm X 99mm  
SNIPER RIFLE (UN-COOLED VERSION)**

S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
	(e) E Zoom : 11-22X(Max)	To be physically checked by the BOO	E Zoom limits of the system must be as mentioned in QRs Para 2 (e)
	(f) NETD : <40 mk	OEM to produce certificate of accredit lab	It should comply
	(g) Ready to use : Ready time from power off mode : 1 minute or less for ready to use.	The Equipment will be switched ON from OFF mode to operational mode. The BOO will physically check this parameter by using stop watch.	It must have ON/OFF switch for operating and must take $\leq 1$ minute from 'OFF' Mode to 'OPERATION' MODE i.e ready time.
	(h) Reticule: i) Fine Cross hair with centre dot. The reticule pattern should provide the scale of different range i.e .200,600,1000,1400& 1800 meters for 12.7mmx99mm sniper rifle.	To be checked by the BOO	Reticule must be Fine cross hair with range estimation.
	(i) Adjustment and zeroing: (j) There should be a facility of Azimuth & Elevation adjustment in steps of 1 MOA	Physically checked by the BOO	Must be a facility of Azimuth & Elevation adjustment in steps of 1 MOA
	(k) Focusing facility (Manual): 10 mtr to infinity	To be physically checked by the BOO The system should be manually focus on particular targets from 10 mtrs to infinity.	There must be facility of manual focusing 10 mtrs of infinity.
	(l) Non Uniformity Calibration (NUC).	To be physically checked by the BOO for NUC facility.	It must have NUC.
	(m) Polarity control: white hot/ black hot/multiple colour modes	To be physically checked by the BOO	It must meet the QR
	(n) Diopter adjustment: -2D to +2D or better	Physically checked by the BOO. Measure the diopter adjustment limits with the help of Diopter measuring apparatus. Diopter measuring apparatus to be provided by the firm.	The sight should have diopter adjustment from -2D to +2D or better

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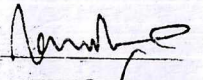
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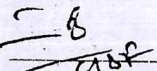



**DRAFT QRs /TDs FOR WEAPON BASED THERMAL IMAGING NIGHT SIGHT FOR 12.7 mm X 99mm  
SNIPER RIFLE (UN-COOLED VERSION)**


S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
	(o) <b>Internal display</b> : colour OLED matrix, SXGA with aspect ratio 5:4	Firm has to submit National /International accredited Lab certificate, if no such lab available in India then, Firm has to submit any Govt Lab in India/OEM certificate in respect of the same. To be checked by the BOO for authenticity and validity	It should comply the QR
	(p) <b>Eye Relief</b> : 50 mm (min)	Physically checked by the BOO	Eye relief must be 50mm (min)
	(q) <b>Image capturing and video recording</b> : system should have the facility to recording and to retrieve the stored data.	Physically checked by the BOO	System should have the facility of Image capturing and video recording and to retrieving the stored data.
	(r) <b>Memory</b> : In built 64 GB (min)	Physically checked by the BOO	Must have 64GB (Min)
	(s) <b>Video output</b> : It should have video output facility.	To be checked by BOO	IT should comply
	(t) <b>Silent operation</b> : It should not be audible beyond 2 mtrs when thermal sight is in use.	To be checked by BOO	It should meet the QRs
3	<b>Operational</b>		
	a) <b>Range:</b> Detection :2km (min) Recognition : 1200 Mtrs. (min) Identification : 800 mtrs. (min)	<b>Detection:</b> Move a group of 03 persons at a distance of 2000 mtrs or more. TI Sight should detect the movement. <b>Recognition:</b> Move a group of 03 persons in camouflage uniform from a range of 1200 Mtrs or more with both hand up & down movement towards the TI Sight. The movement of person with both hand up & down be recognized at a range of 1200 Mtrs. <b>Identification</b> It should be able to identify the movement at a distance of 800 mtrs or more	It must comply.

  
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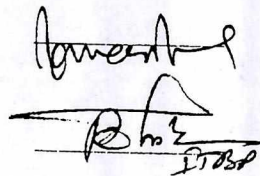
  
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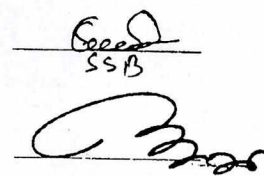
  
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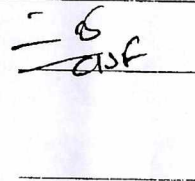


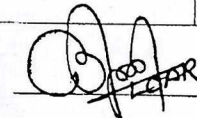
**DRAFT QRs /TDs FOR WEAPON BASED THERMAL IMAGING NIGHT SIGHT FOR 12.7 mm X 99mm  
SNIPER RIFLE (UN-COOLED VERSION)**

S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
4	<b>Operating temp Range:</b> (a) -40 degree to +55 degree centigrade	The BOO to physically check the authenticity and validity of National/ International Accredited lab certificate/report submitted by the firm in respect of operating Temp.	The Firm should provide National/International Accredited lab certificate/report in respect of temperature range of para 4(a)&(b). In case any doubt in the test report, the veracity of the same may be checked from the concerned lab.
	(b) <b>Storage temp Range:</b> -45° to +70°C	Check the National/ International Accredited lab certificate/report submitted by the firm in respect of operating Temp.	
5	<b>Mounting bracket:</b> MIL-STD 1913 Picatinny. The Sight must remain zeroed and stable even after fire of minimum 100 rounds.	The BOO to physically check :- (a) Check the adaptor provided and its compatibility with the weapon as defined by the user.  (b) Mount the sight on 12.7mm sniper rifle and zero sight with the weapons. Fire 100 rounds as per the procedure and check the zeroing.	(a) A standard well compatible Pica tinny rail adaptor must be provided to mount the sight on the user defined weapon.  (b) The Sight must remain zeroed and stable even after fire of minimum 100 rounds.
6	<b>Sight locking Mechanism:</b> The sight should have stable locking mechanism for quick attachment and detachment with weapon.	(a) Mount the sight on 12.7mm sniper rifle and lock the mechanism with lever.  (b) Check the sight locking mechanism for quick attaches and detach with the weapon. Check the stability of the lever locking mechanism during testing.	(a) The sight must have lever locking mechanism to mount it on the weapon.  (b) The sight must quickly attach & detach with the weapon.  (c) Lever locking mechanism must keep the mount stable on the weapon during firing.
7	<b>Weapon Mount Adaptor:</b> Suitable weapon mount adaptor should be provided , with each sight to enable mounting on 12.7mmx99mm sniper rifle.	To be physically checked by the BOO	Must be suitable Weapon mount adaptor.

  
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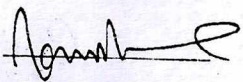
  
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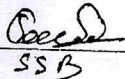
  
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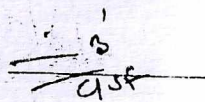


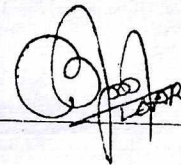
**DRAFT QRs /TDs FOR WEAPON BASED THERMAL IMAGING NIGHT SIGHT FOR 12.7 mm X 99mm  
SNIPER RIFLE (UN-COOLED VERSION)**

S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
8	<b>Accuracy and consistency:</b> Less than one minute of angle (MOA) at 100 yards i.e grouping fire of five rounds not exceed one inch.	To be physically checked by the BOO	System must be able to fire accurate as per QRs.
9	<b>POWER SOURCE:</b>		
	<b>Battery</b> (a) Type Should have rechargeable commercially available Lithium-ion/Lithium polymer battery or better to operate the system. Battery status indication should be on screen.	Physically checked by the BOO	The system must be operated with rechargeable commercially available Lithium-ion/Lithium polymer battery. Battery charge indication must be provided on screen.
	(b) <b>Battery performance:</b> The battery (s) should be able to run the system for 6 hours or more in operation mode on single charge.	To be Physically checked by the BOO	Rechargeable battery (S) must run the system for 6 hours or more in operational mode on single charge.
	iii) <b>Spare batteries:</b> For Additional cycle of operation, 02 set spare battery/cell be provided.	Undertaking be given by the firm.	System must be provided with 2 spare batteries.

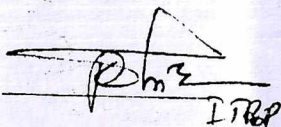


  
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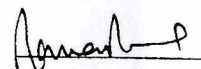
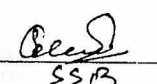
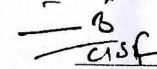
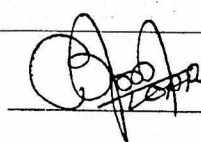

  
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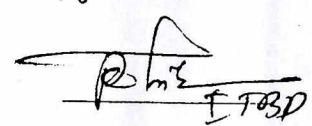
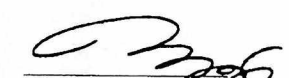







**DRAFT QRs /TDs FOR WEAPON BASED THERMAL IMAGING NIGHT SIGHT FOR 12.7 mm X 99mm  
SNIPER RIFLE (UN-COOLED VERSION)**

S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
	<b>iv) Battery charger:</b> A smart and intelligent universal charger for charging the battery from 110 volt to 270 volts 50 Hz AC mains along with DC charging facility from 12 volt to 48 volt DC (on entire range) should be provided. It should have "charge on" and "charge complete" indications during the charging of battery. The charger should be capable to charge the battery fully in $\leq$ 3 hours.	To be Physically checked by the BOO  Switch 'ON' the charge on 50 Hz variable AC mains supply and check the out-put voltage by varying the input voltage from 110 to 270 volts.  Again switch 'ON' the charge on variable DC power supply and check the out-put voltage by varying the input voltage from 12 to 48 volts.  Check the charger for 'Charge ON; and charge complete indications. Charge a fully discharged battery with the charger and note down the total time to fully charge the battery	System must be equipped with battery charger with all parameters as specified in QRs.
10	<b>Miscellaneous:-</b>		
	1. User Manual	Physically checked by the BOO	User manual must be provided.
	2. Operation Manual/technical Manual -Detailed operators instruction, Technical literature, Maintenance manual, inspection standards be provided with the equipment	Physically checked by the BOO	Operation Manual/ technical Manual detailed operator's instructions, Technical literature, Maintenance manual, inspection standards must be provided with the equipment.
	3. Warranty: Min. 5 years & life min 10 Years/10000 hrs	An undertaking in this regard will be obtained from the firm	Warranty of the system min. 02 years & shelf life min 10 years/10000 hrs.

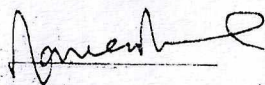






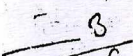


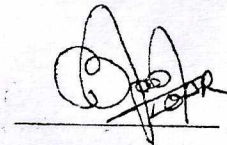
**DRAFT QRs /TDs FOR WEAPON BASED THERMAL IMAGING NIGHT SIGHT FOR 12.7 mm X 99mm  
SNIPER RIFLE (UN-COOLED VERSION)**

S.NO	PARAMETER	TRIAL DIRECTIVE	RESULT EXPECTED
	4. Test station with Test Equipment for repair & Maintenance of the system (Base workshop level).	Undertaking be given by the firm.	
	5. Engineering support: Adequate number of spares including IR Sensor, Modules used (10% of total Nos of TI Sight) etc or as per user requirement.	To be checked by BOO.	Engineering support as per para 10 (5) must be provided
11	Training: (a). Base workshop level training to minimum 05 technicians on full-fledged running testing, diagnostic and calibration set up.	An undertaking in this regard will be obtained from the firm.	Training as specified must be provided
	(c) Operator level training should be imparted to 50 personnel.	An undertaking in this regard will be obtained from the firm	

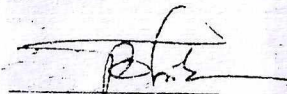


  
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