

संख्या. पी-63013/03/2011/मोड-1/सीसुबल 3869-8/

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

ब्लॉक संख्या . 10,
सीजीओ काम्पलैक्स,
लोधी रोड, नई दिल्ली-03
दिनांक 24 नवम्बर 2022

सेवा में,

महानिदेशक:- आसाम राईफलस (through LOAR), केन्द्रीय ओद्यौगिक सुरक्षा बल,
केन्द्रीय रिजर्व पुलिस बल, भारतीय तिब्बत बोर्डर पुलिस, सशस्त्र सीमा बल,
राष्ट्रीय सुरक्षा गार्ड एवं पुलिस अनुसन्धान एवं विकास ब्योरो

विषय: अनुमोदित गुणात्मक आवश्यकता /परीक्षण निर्देशों का प्रेषण

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये सूत्रीकरण एवं महानिदेशक सीमा सुरक्षा बल द्वारा अनुमोदित "PNV Binocular & Monocular" के संशोधित गुणात्मक आवश्यकता/परीक्षण निर्देशों को आपकी अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।

संलग्न : उपरोक्तनुसार

(राकेश रंजन लाल)
उप महानिरीक्षक (वस्त्र)

प्रतिलिपि :-

1. तकनीकी निदेशक
The 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) : आपसे अनुरोध है कि उक्त उपकरण के गुणात्मक आवश्यकता /परीक्षण निर्देशों जोकि गृह मंत्रालय की वैबसाइट (पुलिस आधुनिकीकरण संभाग) के गुणात्मक आवश्यकता पोर्टल में मशीनरी एवं उपकरण के साथ निगरानी उपकरण वर्ग के अर्न्तगत क्रमांक संख्या-68 और 71 पर पहले से अपलोड है के स्थान इस पत्र के साथ संलग्न संशोधित गुणात्मक आवश्यकता /परीक्षण निर्देशों को अपलोड करने का श्रम करें।
2. SO (IT), North Block, MHA : -वहीं-
(Through E-mail)
(E-mail address: soit@nic.in)
3. तकनीकी विंग, सीमा सुरक्षा बल : आपसे अनुरोध है कि उक्त उपकरण के गुणात्मक आवश्यकता /परीक्षण निर्देशों को सीमा सुरक्षा बल की वैबसाइट पर अपलोड करने का श्रम करें।
4. रसद निदेशालय-आयुद्ध अनुभाग : उक्त उपकरण के अनुमोदित गुणात्मक आवश्यकता /परीक्षण निर्देश को आपके सूचनार्थ एवं अग्रिम कार्यावाही हेतु प्रेषित किया जा रहा है।
5. कार्यालय प्रति।

Qualitative Requirements & Trial Directives of PNV Binocular (Revision)

S.No	Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired																
1.	Weight	Maximum 900 Gms including Cells/batteries.	Measure the weight of the Binocular including cells or battery with the help of weighing machine.	Should not be more than 900 gms including cells/ batteries.																
2.	Image Intensifier Tube (II Tube)	<p>All parameters of II Tube mentioned below should be supported by certificate of II tube manufacturer and data sheet of each II Tube must be provided:-</p> <p>User specified at the time of Tender for resolution & SNR as per (a) or (b)</p> <p>a) Resolution: 72 Ip/mm or better and Signal to Noise Ratio (SNR) 26 or better at 108µ lux.</p> <p>b) Resolution: 68 Ip/mm or better and Signal to Noise Ratio (SNR) 25 or better at 108µ lux.</p> <p>c) Mean Time to failure (MTTF): Minimum 10,000 operational hours.</p> <p>d) It should have auto gated feature and have inbuilt AGC & BSP.</p> <p>e) Permissible black spot level</p> <table border="1"> <thead> <tr> <th>Size of spot (inches)</th> <th>Zone 1 (6mm)</th> <th>Zone 2 (6mm-15mm)</th> <th>Zone 3 (15mm-18mm)</th> </tr> </thead> <tbody> <tr> <td>0.003 to 0.006</td> <td>0</td> <td>1 (Max)</td> <td>2 (Max)</td> </tr> <tr> <td>0.006 to 0.009</td> <td>0</td> <td>1 (Max)</td> <td>1 (Max)</td> </tr> <tr> <td>>0.009</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Size of spot (inches)	Zone 1 (6mm)	Zone 2 (6mm-15mm)	Zone 3 (15mm-18mm)	0.003 to 0.006	0	1 (Max)	2 (Max)	0.006 to 0.009	0	1 (Max)	1 (Max)	>0.009	0	0	0	<p>Send the equipment to verify/check the QRs part 2 (a) or (b) (as per user specified) & (c) to IRDE Dehradun or any other institution where such testing facilities is available and check the report submitted by the IRDE or other institution.</p> <p>The firm should submit OEM certificate/report in respect of QRs Para 2 (c) & (d) from Original manufacturer of II tube.</p>	<p>The certificate/reports from IRDE Dehradun or any other institution and OEM must confirm the QRs Para 2 (a) to (e).</p>
Size of spot (inches)	Zone 1 (6mm)	Zone 2 (6mm-15mm)	Zone 3 (15mm-18mm)																	
0.003 to 0.006	0	1 (Max)	2 (Max)																	
0.006 to 0.009	0	1 (Max)	1 (Max)																	
>0.009	0	0	0																	

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S.No	Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired
3.	Ingress Protection	IP 67 or better	Tighten the battery cover properly. The equipment should be immersed in one meter depth of water excluding the height/width of the equipment, for half an hour. Take out the equipment from the water container and switch ON after drying it. Firm will also submit NABL/International accredited Lab certificate.	Wipe the equipment with a soft cleaning cloth and dry it externally. Check by opening the battery compartment and other external openable parts for ingress of water content inside. If it is found OK then insert the battery and switch ON the equipment. It should run properly and no water contents/wipes should be appearing on the view.
4.	Range (in star lit conditions without moon)	i) For Human being:- Detection- 500 meters or better Recognition- 325 meters or better ii) For light commercial vehicle:- Detection- 600 meters or better Recognition- 400 meters or better	Place two or three men in camouflage uniform at the range of 500 meters and 325 meters in extended line formation and move them horizontally (Light conditions should be checked by Lux Meter and value of light level is less than or equal to 10^{-3}). The light condition should be starlit condition. Again place a light commercial vehicle at different angles at a distance of 600 meters & 400 meters for detection & recognition respectively.	Movement human target should be detected at the range of 500 meters and recognized at 325 meters clearly. In case of light commercial vehicle, the detection range should be 600 meters & recognition range should be 400 meters. Note:- Detection means ability to detect vehicles, structures (man made/normal) and any movement of man or animal.
5.	Power source	i) Should be operable independently on primary and rechargeable cells / battery. The equipment is to be supplied with one set of commercially available primary & rechargeable battery. The battery should run 15 hours on normal mode. ii) One commercially available charger with each PNV Binocular required with charging facility both AC volt and DC volt (2-in-one facility).	i) Switch 'ON' the equipment by inserting two primary cells & rechargeable cells/battery in it one by one separately. Switch 'ON' the equipment after inserting new cells or battery for 15 hours in normal ON mode. ii) Charger provided for charging batteries should be easily available in commercial market. Connect the charger on AC mains supply of 220 volt as well as on DC supply.	i) The equipment should be operated independently on primary cells & rechargeable battery. ii) Rechargeable cells or battery should be charged with the charger provided on both AC Mains 220 Volt supply and on 12/24/36 volt DC supply. (as specified by the supplier)



 Date _____
 Place _____









S.No	Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired
6.	Low battery indication	Low battery indication should be provided inside the Field of view (FOV)	Switch 'ON' the equipment on power supply and reduce the supply voltage linearly for low battery indication confirmation.	Low battery indication should be provided inside the FOV.
7.	Magnification	4x or better Optional Feature – Clip on Magnifier of 4X. Magnifier (4X) should have feature of attach or de-attach it from main equipment (Clip-on).	Fix the equipment on instrument testing scale of integrated test equipment and measure the magnification of the Binocular as per the procedure at laboratory/workshop.	Magnification should be as per the specifications mentioned in the QRs.
8.	Field of View	6° or better	Fix the equipment on instrument testing scale of integrated test equipment and measure the Field of View as per the procedure.	FOV should be 6° minimum.
9.	Inter papillary distance (IPD)	Should be between 55mm to 71mm.	Check the equipment for IPD by adjusting the each eyepiece physically.	The Binocular should have the adjustment facility of IPD.
10.	Dioptr adjustment	-5D to +4D dioptr or better should be provided.	Measure the Dioptr adjustment with the help of Dioptr kit or apparatus.	The Binocular should have Dioptr adjustment from -5D to +4D or better.
11.	Operating temperature	-30° C to +55° C (should comply with MIL STD 810H or ISS 55555)	The firm should provide NABL/International accredited lab certificate (check the supporting documents provided by the firm)	A NABL/International accredited lab certificate/report submitted by the firm in r/o operating temp i.e. -30° C to +55° C should confirm the same. NABL/ International accredited lab certificate should not be old more than 02 years from the date of closing of bid.
12.	Carrying case	Each equipment should be supplied with a suitable hard carrying case and soft carrying case. Soft carrying case should be light weight water resistant	Check physically by the BOOs:- i) For hard carrying case:- It should be dropped from a height of 2 meter on a hard flat surface. No deformation /Crack is acceptable. Firm to provide NABL/International accredited Lab certificate/report in this regard.	A National/International accredited lab certificate/report submitted by the firm.



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S.No	Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired
13.	Environmental requirement	Binocular should confirm to JSS 55555 or Mil Std 810-H latest for humidity, shock, vibration, rain test etc. to be supported by NABL/International accredited laboratory certificate/report.	Check the supporting documents provided by the firm. ii) For Soft Carrying case:- It should be light weight & water resistant and must compliant to rain test as per JSS 55555 or MIL Std. 810H.	An NABL/International accredited lab certificate/report submitted by the firm should confirm JSS 55555 or Mil Std 810-G for humidity, shock, vibration, rain test etc. NABL/ International accredited lab certificate/ report should not be old more than 02 years from the date of closing of bid.
14.	Miscellaneous:			
a)	i) Purging kit be provided at the time of supply (quantity be specified by the user) ii) One additional set of battery be provided.		Firm to provide an undertaking certificates in this regard.	-
b)	Cleaning kit be provided with each of the equipment.		Firm to provide an undertaking certificates in this regard.	-
c)	Supplier to submit undertaking to provide spare parts for next 10 yrs minimum from the date of supply.		Firm to provide an undertaking certificates in this regard.	-
d)	Technical manual/operational manual including repair manual of PNV Binocular		Firm to provide an undertaking certificates in this regard.	-
e)	Repair & maintenance training should be arranged for at least 02 persons or 02 persons on 100 equipment for 01 week at Firm premises. In addition the User level training should be conducted at field location for 02 days.		Firm to provide an undertaking certificates in this regard.	-

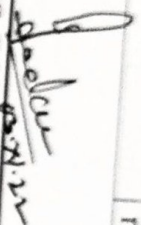
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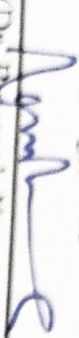
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S.No	Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired
1	Illustrated Spare Parts List (ISPL), photograph and CAT parts number be provided.		Firm to provide an undertaking certificates in this regard.	


(Pankaj Goomer),
ADG (Log), BSF


(S C Yadav), DIG,(SIW), BSF


Happy Verma), Comdt Ordnance, BSF
7 Nov 2012



(Dr. Ravveesh Kumar), PSO(W), BPR&D


(Vivek Kr Gupta), JAD,DCPW


(Abhijit Chakraborty) IRDE,DRDO,Dehradun



(Anoop Shukla), DC(AIA), BSF

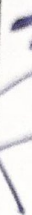

(AP Singh), DC, SIW BSF



(Vinay Verma), DC, CRPF

* 
(Nafees Ahmad), DC, CISF


(N C Yadav), TC, NSG


(R K Pandey), AC, CISF



(Inspr/RM Manish Raj), SIW, BSF


(Inspr/Tele Suresh Chandra), ITBP


(Nb Balwan Singh), LO Assam Rifles


ASI/Comm Sandeep Kumar), SSB

Approved/ Not approved


Director General
Border Security Force

Qualitative Requirements & Trial Directives of PNV Monocular (Revision)

S.No	Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired																
1.	Weight	Maximum 315 + 5% gms including Cells/batteries	Measure the weight of the Monocular including cells or battery with the help of weighing machine.	Should not be more than 315 + 5% gms including cells/batteries.																
2.	Image Intensifier Tube (II Tube)	<p>All parameters of II Tube mentioned below should be supported by certificate of II tube manufacturer and data sheet of each II Tube must be provided:-</p> <p>User specified at the time of Tender for resolution & SNR as per (a) or (b)</p> <p>a) Resolution: 72 Ip/mm or better and Signal to Noise Ratio (SNR) 26 or better at 108 μ lux.</p> <p>b) Resolution: 68 Ip/mm or better and Signal to Noise Ratio (SNR) 25 or better at 108μ lux.</p> <p>c) Mean Time to failure (MTTF): Minimum 10,000 operational hours.</p> <p>d) It should have auto gated feature with inbuilt AGC/BSP.</p> <p>e) Permissible black spot level</p> <table border="1"> <thead> <tr> <th>Size of spot (in inches)</th> <th>Zone 1 (6mm)</th> <th>Zone 2 (6mm-15mm)</th> <th>Zone 3 (15mm-18mm)</th> </tr> </thead> <tbody> <tr> <td>0.003 to 0.006</td> <td>0</td> <td>1 (Max)</td> <td>2 (Max)</td> </tr> <tr> <td>0.006 to 0.009</td> <td>0</td> <td>1 (Max)</td> <td>1 (Max)</td> </tr> <tr> <td>>0.009</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Size of spot (in inches)	Zone 1 (6mm)	Zone 2 (6mm-15mm)	Zone 3 (15mm-18mm)	0.003 to 0.006	0	1 (Max)	2 (Max)	0.006 to 0.009	0	1 (Max)	1 (Max)	>0.009	0	0	0	<p>Send the equipment to verify/check the QRs part 2 (a) or (b) (as per user specified) & (e) to IRDE Dehradun or any other institution where such testing facilities is available and check the report submitted by the IRDE or other institution.</p> <p>The firm should submit OEM certificate/report in respect of QRs Para 2 (c) to (d) from Original manufacturer of II tube.</p>	<p>The certificate/reports from IRDE Dehradun or any other institution and OEM must confirm the QRs Para 2 (c) to (d).</p>
Size of spot (in inches)	Zone 1 (6mm)	Zone 2 (6mm-15mm)	Zone 3 (15mm-18mm)																	
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0.006 to 0.009	0	1 (Max)	1 (Max)																	
>0.009	0	0	0																	
3.	Must be capable of being used as a hand held viewer, face & helmet mounted. Light weight and rust proof adaptor should be		Fix the monocular on face with the help of mask/strap or head mount adaptors	Monocular should be easily mounted on the face mask or strap or head																

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No	Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired
4.	Ingress protection	IP 67 or better	Tighten the battery cover properly. The equipment should be immersed in one meter depth of water excluding the height/width of the equipment, for half an hour. Take out the equipment from the water container and switch ON after drying it. Firm will also submit NABL/International accredited lab certificate for its rust proof feature.	mount and user friendly for hands free operation. It should also have the facility to be mounted on helmet with supplied/provided adaptor or mount and should be user friendly & comfortable.
5.	Range (in star lit conditions without moon)	For Human being- Detection- 250 meters or better Recognition- 150 meters or better	Place two or three men in camouflage dress at the range of 250 meters and 150 meters in extended line formation and move them. (Light conditions should be checked by Lux Meter and value of light level is less than or equal to 10^{-3})	Movement of human target should be detected at the range of 250 meters and recognized at 150 meters clearly. Note: Detection means presence of something is there, whereas recognition means what type of target is there and the type of movement.
6.	Power source	i) Should be operable independently on primary/rechargeable cells / battery. The equipment is to be supplied with one set of commercially available primary & rechargeable battery. ii) The battery should run at least 08 hrs with IR and 15 hours on normal mode.	i) Switch 'ON' the equipment by inserting primary cells /rechargeable cells /battery in it. Physically check the supplied/provided set of primary & rechargeable battery. ii) Switch 'ON' the equipment after inserting new cells or battery for 15 hours in normal ON mode. After this again switch ON the equipment for at least 08 hours in IR mode with fresh batteries.	i) The equipment should be operated independently on primary/rechargeable cells and battery. ii) Monocular should run at least 08 hours with IR and 15 hours on normal mode. iii) Rechargeable cells or battery should be charged with the charger provided on both AC Mains 220 Volt supply and on 12/24/36 volt DC

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No	Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired
7.	Must have Eye safe IR LASER illuminator for use in totally dark environment for recognition at a range of 150 meters or better.	iii) One commercially available charger with each PNV Monocular required with charging facility both AC volt and DC volt (2-in-one facility).	iii) Charger provided for charging batteries should be easily available in commercial market. Connect the charger on AC mains supply of 220 volt as well as on DC supply.	supply. (as specified by the supplier)
8.	Low battery indication	Low battery indication should be provided inside the Field of view (FOV)	Switch 'ON' the Monocular in IR LASER Mode in totally dark environment.	A human target must be easily recognized in totally dark environment up to the range of 150 mtrs in IR mode.
9.	Magnification	1 x or better	Switch 'ON' the equipment on power supply and reduce the supply voltage linearly for low battery indication confirmation.	Low battery indication should be provided inside the FOV.
10.	Field of View	Minimum 40° or better	Fix the equipment on instrument testing scale of integrated test equipment and measure the magnification of the Monocular as per the procedure.	Magnification should be 1x or better.
11.	Dioppter adjustment	-5D to +4D dioptr or better	Fix the equipment on instrument testing scale of integrated test equipment and measure the Field of View as per the procedure.	FOV should be minimum 40° or better Magnification (to be deleted)
12.	Operating temperature	-30° C to +55° C (should comply with MIL STD 810H/JSS 55555)	Measure the Dioppter adjustment with the help of Dioppter kit or apparatus.	The Monocular should have Dioppter adjustment from -5D to +4D or better.
13.	Carrying case	Each equipment should be supplied with a suitable hard carrying case and soft carrying case. Soft carrying case should be light weight	Check the supporting documents provided by the firm.	An NABL/ International accredited lab certificate/report should be submitted by the firm. NABL/International accredited Lab certificate should not be old more than 02 years from the date of closing of bid.

Check physically by the BOOs:-
 i) For hard carrying case:-
 It should be dropped from a height of 2

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No.	Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired
14.	Environmental requirement	Monocular should confirm to JSS 55555 or Mil Std 810-H latest for humidity, shock, vibration, rain test etc. to be supported by NABL/ International accredited laboratory certificate/ report	<p>meter on a hard flat surface. No deformation / Crack is acceptable. Firm to provide NABL/ International accredited Lab certificate in this regard.</p> <p>ii) For Soft Carrying case:- It should be light weight & water resistant and must compliant to rain test as per JSS 55555 or MIL Std. 810H.</p>	An NABL/ International accredited lab certificate/report should be submitted by the firm which confirms JSS 55555 or Mil Std 810-H for humidity, shock, vibration, rain test etc. NABL/ International accredited lab certificate should not be old more than 02 years from the date of closing of bid.
15.	Miscellaneous:			
a)	i) Purging kit be provided at the time of supply (quantity be specified by the user)		Firm to provide an undertaking certificate in this regard.	-
b)	ii) One additional set of battery be provided.		Firm to provide an undertaking certificate in this regard.	-
c)	Cleaning kit be provided with each of the equipment.		Firm to provide an undertaking certificate in this regard.	-
c)	Supplier to submit undertaking to provide spare parts for next 10 yrs minimum from the date of supply.		Firm to provide an undertaking certificate in this regard.	-
d)	Technical manual/operational manual including repair manual of PNV Monocular.		Firm to provide an undertaking certificate in this regard.	-
e)	Repair & maintenance training should be arranged for at least 02 persons or 02 persons on 100 equipment for 01 week at Firm premises. In addition the User level training should be conducted at field location for 02 days.		Firm to provide an undertaking certificate in this regard.	-



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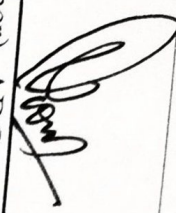
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Parameter	Specification	Procedure suggested for trial for Board of Officers	Result expected / desired
	Illustrated Spare Parts List (ISPL), photograph and CAT parts number be provided.	Firm to provide an undertaking certificate in this regard.	

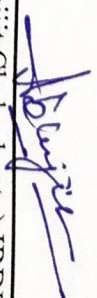

 (Pankaj Goomer), ADG (Log), BSF

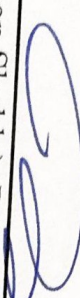

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 (Abhijit Chakraborty) IRDE, DRDO, Dehradun

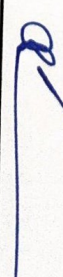

 (Anoop Shukla), DC(AIA), BSF



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 (Nafees Ahmad), DC, CISF


 (N C Yadav), TC, NSG

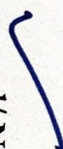

 (R K Pandey), AC, CISF



 (Inspr/RM Manish Raj), SIW, BSF


 (Inspr/Tele Suresh Chandra), ITBP


 (Nb Balwar Singh), LO Assam Rifles


 ASI/Comm Sandeep Kumar), SSB


Approved/ Not approved


 Director General
 Border Security Force