

154

पत्रांक संख्या/आपूर्ति/95-1-4-2020)/.....646

बिहार पुलिस मुख्यालय,  
(आधुनिकीकरण,अपराध अभिलेख एवं प्रोविजन प्रभाग)

पटना, दिनांक- 04/09/20

सेवा में,

निदेशक,

सूचना एवं जनसम्पर्क विभाग,

बिहार, पटना।

विषय— निविदा आमंत्रण सूचना सं0-07/2020-21 के प्रकाशन के संबंध में।

निदेशानुसार उपर्युक्त विषय के संबंध में निविदा आमंत्रण सूचना सं0-07/2020-21 की प्रतियाँ भेजते हुए अनुरोध है कि इसे राज्य एवं राज्य से बाहर के प्रमुख समाचार पत्रों में (अंग्रेजी एवं हिन्दी) के अगले दो संस्करणों में प्रकाशित कराने की कृपा की जाय साथ ही पी0आर0डी0 वेबसाइट पर भी प्रसारित करने की कृपा की जाय।

इस निविदा आमंत्रण सूचना का प्रकाशन किन-किन समाचार पत्रों में किया गया इसकी सूचना देने की कृपा की जाय।

अनु0-यथोपरि।

6  
4/9/20

पुलिस महानिरीक्षक के सहायक (क्यू0),  
बिहार, पटना

प्रतिलिपि:—

1. आई0टी0 मैनेजर, पुलिस महानिदेशक का कार्यालय, बिहार, पटना को कृपया सूचनार्थ। कृपया इसे आज ही वेबसाइट पर अपलोड किया जाय। साथ ही Indian Trade Journal, Kolkata के अंक में प्रकाशन हेतु Government of India, the Controller of Publications, Civil Lines, Delhi : 110 054, (Tel No. 011-23812527, FAX : 011-23817846), Email Id-sk.mondal.dgcis@nic.in के पतेपर भी अनिवार्य रूप से भेजा जाय।
2. Government of India, the Controller of Publications, Civil Lines, Delhi : 110 054, (Tel No. 011-23812527, FAX : 011-23817846), Email Id- sk.mondal.dgcis@nic.in को कृपया सूचनार्थ एवं आवश्यक क्रियार्थ प्रेषित। अनुरोध है कि उक्त निविदा का प्रकाशन Indian Trade Journal, Kolkata के अंक में करने की कृपा की जाय।

6  
4/9/20

पुलिस महानिरीक्षक के सहायक (क्यू0),  
बिहार, पटना

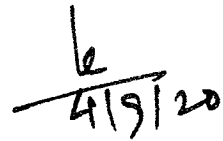
LS3

**Police Headquarters, Bihar, Patna**  
**Notice Inviting Tender No.-07/2020-21**

1. Name of the Department: Office of Director General of Police, Bihar, Patna.
2. Last date & time for the acceptance of the tender : **30/09/2020**, Till 02:00 PM
3. Date & time fixed for the opening of the tender : **30/09/2020**, At 04:00 PM
4. Place fixed for receiving & opening the tender : Office of Director General of Police, Bihar, Patna.
5. Details of Job:

S.N.	Item name	Quantity
1	Ballistic Shield	05
2	Helmet Mounted NVD	20
3	Thermal Imagers (HHTI)	05
4	Light Weight Sleeping Bags	200
5	10 KVA 1 Phase Online UPS	01
6	Rhino GPS 750	10

Specifications and other terms & conditions of the tender may be obtained in person from this office or may be downloaded from the website [www.prdbihar.gov.in](http://www.prdbihar.gov.in) or [www.biharpolice.bih.nic.in](http://www.biharpolice.bih.nic.in).

  
4/9/20

**AIG (Q)**  
Bihar, Patna

## Terms & Conditions of Tender No.-07/2020-21

1. The tender should be submitted in two parts: (i) Technical Bid and (ii) Financial Bid, duly sealed in two separate envelopes super-scribed as "Technical Bid" and "Financial Bid".
2. All relevant papers/ E.M.D./certificates/specifications etc. of items should be enclosed in the Technical Bid.
3. The rates of the items shall be quoted in the Financial Bid only.
4. All charges like IGST/CGST/SGST etc. shall be clearly mentioned in the Financial Bid and the net rate (in figures and words) including all taxes and duties must also be quoted. Vague offers like indicating taxes "as applicable" will not be accepted.
5. The rates of the items shall be quoted in the Financial Bid in two parts :  
(i) With AMC (Annual Maintenance Contract) and (ii) Without AMC
6. There should be no cutting, over writing or correction on the rates.
7. The technical and financial bids for each item should be submitted separately in separate envelopes. The technical and financial bids for more than one items submitted together in the same envelope shall not be accepted.
8. If the financial bid is submitted in the same envelope containing the technical bid then also it shall be summarily rejected.
9. The technical and financial bids should be put in two separate sealed envelopes and the envelopes should be marked Tender No-07/2020-21 (Technical Bid) and Tender No-07/2020-21 (Financial Bid) along with the name and address of the firm. The sealed envelopes containing the technical and the financial bids should be sent in another sealed envelope which should be marked as Tender No-07/2020-21. **This envelope should not bear the name and address of the firm.**
10. Income Tax Returns of last three years, a photocopy of GST registration number of the participating firm and turn-over of any two of the previous three financial years should be submitted with the technical bid. It should be specifically mentioned whether IT return has been filed manually or electronically.
11. The turnover of the firm for the last reported financial year should be at least equal to the amount of the supply order which is being issued. A copy of the profit and loss Account of the firm for any two of the previous three financial years, certified by a Chartered Accountant should be submitted along with the tender. If the tenderer is authorized dealer or authorized supplier of manufacturing firm, then the certified details of the turnover of authorizing firm may be accepted. Tender specific authorization from the OEM must be submitted, but in certain cases where authorization from OEM is not required, the Technical-cum-User committee (T.U.C.) shall decide about exemption (if any) on a case-by-case basis; citing appropriate reasons for the same.
12. If there is some discount in the price of any item, it should be deducted from price itself and such discounts should not be quoted separately.
13. If the product is available on DGS & D rate contract, then a copy of the contract must be attached and pricing be done including all taxes.
14. A copy of the test report for the product issued by any established and recognized private Laboratory or by agency accredited by the Government should be attached with the technical bid. However if required, the Technical-cum-User committee (T.U.C.) can take decision regarding exemptions/relaxations (if any), citing appropriate reasons.
15. In case of Bullet Proof/Bullet Resistant items, test report of TBRL or any Government Approved/Recognized Laboratory is compulsory.

- 151
16. Firms participating in this tender shall also submit duly sworn affidavit to the effect that " this firm has not been black listed/debarred by any Government or Semi Government or Private Agency and no sister concern of this firm is participating in this tender."
  17. Firms participating in this tender shall also submit the self attested list of users of its equipments.
  18. All items shall be received at Central Clothing Store, Patna; therefore price should be quoted FOR Central Clothing Store, Phulwari Sharif, Patna.
  19. Firms will have to deposit a sum of Rs. 50,000/- (Fifty Thousand) only as an earnest money deposit in the form of Bank Draft duly pledged in favor of the undersigned along with the quotations. The small scale units located in Bihar shall not be liable to deposit earnest money. Exemption from submitting E.M.D. will also be available to those who are registered with the Central Purchase Organization/State Purchase Organization and National Small Industries Corporation (NSIC).
  20. Technical Bids will be opened on scheduled date and time in the office chamber of Police Headquarter. Representatives of the firms competing in the tender may remain present at the time of opening of the technical bid.
  21. The technical bids will be opened first and placed before the Technical Committee of the Police Headquarters, Bihar. If the technical bids are found satisfactory as per tender conditions, it will be put before Central Purchase Committee of the Police Headquarters, Bihar. The firms may be required to participate in the demonstrations of the quoted product and discussions with this committee.
  22. Any paper/document will not be accepted after opening the tender.
  23. Successful firm will have to enter into an agreement after depositing a sum of 5% of the total value of the order as security money in the form of Bank Guarantee duly pledged in favor of undersigned.
  24. The firm will be required to provide satisfactory after-sales service after the delivery of the product.
  25. The firm will be required to supply all the items within the stipulated time frame as mentioned in the purchase order.
  26. Payment for the delivered items will be made only after the acceptance report of the Inspection Committee of the Police Headquarters, Bihar.
  27. The firm whose quotation is approved by the Central Purchase Committee of the Police Headquarters, Bihar, shall be invited to enter into an agreement with the undersigned.
  28. It is expected to submit the duly filled chart attached herewith, along with the technical bid if not the tender shall be summarily rejected.
  29. Indexing of the requisite documents must be done and submitted along with the technical bid.
  30. Hands on training for 3 weeks of the equipment must be imparted to the user group by the firm after successful installation.
  31. Director General of Police Bihar, Patna reserves the right to reject any or all the quotations partially or fully, without assigning any reason thereof.
  32. The Quantity indicated may increase or decrease at the time of issuing purchase order.
  33. The bids must be include the data sheet of individual item.

k  
4/9/20  
A I G (Q)  
Bihar, Police.

119  
32

EXPRESSION OF INTEREST

Bureau of Police Research & Development, New Delhi is in the process of 'Formulating the Qualitative Requirements (QRs) and Trial Directives (TDs) for Ballistic Shield'. Based on the various discussions and consultation with representatives of Industries, Academia and users, Bureau has prepared draft QRs & TDs attached as under

Bureau is looking for valuable comments/suggestions, the interested law enforcement agencies, experts, vendors/raw material suppliers suppliers may send their comments/suggestion latest by 11.02.2019 (1200 hrs) at following address-

Director (Modernization), BPR&D,  
National Highway-8, Mahipalpur,  
New Delhi-110037

The comments/suggestion may be sent through E-mail ([dgmmod@bprd.nic.in](mailto:dgmmod@bprd.nic.in), [dgmmod@bprd.nic.in.psoweapons@bprd.nic.in](mailto:dgmmod@bprd.nic.in.psoweapons@bprd.nic.in)) or registered post

For any additional information/clarification on subject matter, the below mentioned officer may be contacted on any working day (0930 to 1800 hrs)

**Principal Scientific Officer (W), Modernization Division, BPR&D**  
National Highway-8, Mahipalpur,  
New Delhi-110037  
Ph-011-26785451

QUALITATIVE REQUIREMENTS (QRs) AND TRIAL DIRECTIVES  
OF BALLISTIC SHIELD

1. General

1.1 Ballistic shields are used primarily by law enforcement agencies in situations where there is an expected ballistic threat, including high-risk warrant entry, tactical entry, barricaded subject response, officer/victim rescue, active shooter response, and negotiations. The shield is carried until the ballistic threat is eliminated, and then the shield is discarded, due to its weight, until the mission is completed. Ballistic shields are also routinely used during explosive breaching entry to protect from secondary fragments, such as door and structure fragments, resulting from the explosion. Ballistic shields are sometimes used in suicide bomber approach and explosive device perimeter activities; however, it is suggested advisable, not to use ballistic shield to get the protection against fragmentation or blast overpressure from an explosive device.

1.2 This standard prescribe the minimum performance requirements of ballistic shields for protection against small arms ammunitions. The scope of these QRs are limited to physical and ballistic evaluation of ballistic shields against in service small arms ammunition used by the Indian Armed Forces, Centre Armed Police Forces (CAPFs) and other Law Enforcement Agencies (LEAs).

1.3 The specifications covers only the basic design of ballistic shields and provide guidelines for its evaluation. Specific requirements in terms of design, protection area, additional attachments, storage arrangements etc. are to be defined by the user organizations.

2. Material

2.1 Ballistic shields are usually made from Aramid, Polyethylene, En (steel) material or Composite Materials (with various types of ceramic/steel/steel alloy). If the shield incorporates a view port, the lens is usually made from transparent polycarbonate, acrylic, or similar plastic and bullet resistant glass. In modern ballistic shields, high resolution camera (with recording system), display screen is also being provided to get the frontal view under varied functional and climatic conditions.

*(Note: The manufacturers/suppliers/vendors must submit a declaration of construction of ballistic shield to the user organization during tendering process)*

117  
30

2.2 The signed declaration (sample) as given below to be submitted to the user organisation

(Insert Company Name here) hereby declare that all ballistic shield produced as model number \_\_\_\_\_ as a result of successful Compliance Testing to (Name of the organization floated the tender) standards will be of the same construction, using the same materials (from the same manufacturers/suppliers) and fabricated patterns as the test samples listed above is in accordance with qualitative requirements of (Name of the organization floated the tender).

2.3 *The declaration must be on company-headed paper. In addition a full technical file for the ballistic shield must be submitted detailing the carrier (if required), any handles, fixings and any other accessories. The shield must have a permanently fix label containing the following information*

- Name and legal address of the supplier.
- Address of manufacturing location (city, state/province, country).
- Date of manufacture (i.e., month and year).
- Model number.
- Level of protection.
- Serial number.
- List of components and required accessories provided with the shield.
- Availability of replacement parts.
- Instructions for assembly and precautions regarding installation of attachments or modifications to the shield.
- Mark of conformity indicating certification by an accredited certification body.
- Warranty period.

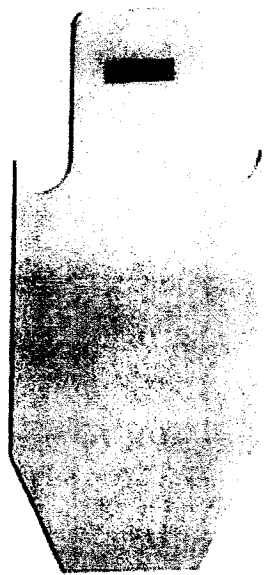
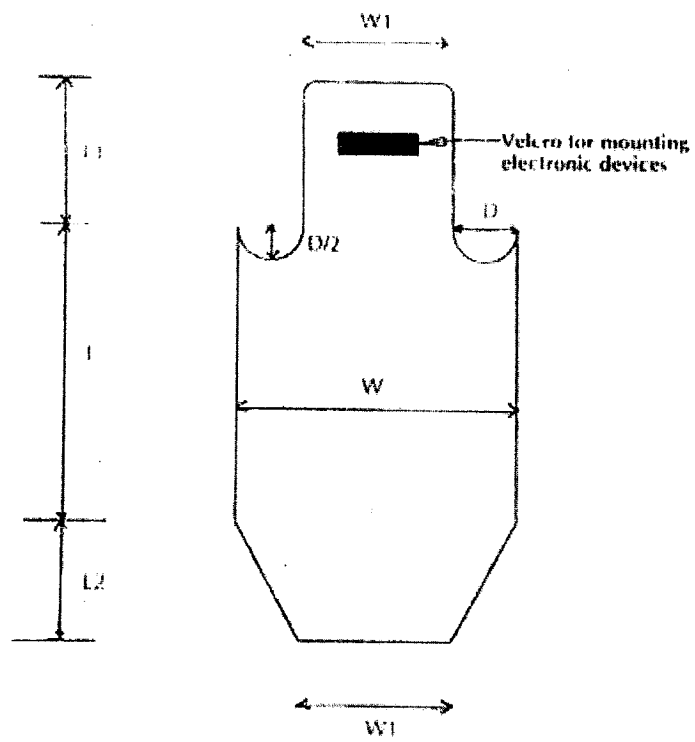
3. Physical/Functional Evaluation

(Table-1)

S.No	Description and Qualitative Requirements	Trial Directives
1.	<p><b>Ergonomics</b></p> <p>(a) The total weight and weight distribution of the shield must not negatively impact the user's ability to perform tasks required during tactical operations.</p> <p>(b) Grips and supports must allow the user to comfortably hold and position the shield.</p>	<p>Board of Officers (BOO)/ Committee select five personnel of different ranks and body stature for holding the ballistic shield and undertake them for various tactical positions/movements.</p> <p>Views/comments be obtained from each individual. Based on their comments, BOO/Committee will draw the inferences that shield is not negatively impacting the user's ability while undertaking the various tactical positions/movements.</p>
2.	<p><b>Design Parameters</b></p> <p>(a) Ballistic shield should have an ambidextrous design.</p> <p>(b) Ballistic shield should provide physiologically designed shock absorbing support system with quick release attachment.</p> <p>(c) Ballistic shield should have a quick detachable carry and load bearing integrated system for easy</p>	<p>Board of Officers to check.</p> <p>Board of Officers to check the grips, supports, carrying straps, padding etc. BOO/Committee to ensure all handles and fixing mechanism are securely attached, not damaged and fully functioning.</p> <p>Board of Officers/Committee to check physically and ensure that the ballistic shield does not</p>



### Rear View Of Ballistic Shield



movement and allow the user to keep the hands free for holding and firing the weapon without any discomfort to the user.

rattle when shaken.

(d) Ballistic shield should provide on both side weapon barrel resting port to help soldier fire actively while having other hand holding the shield.

BOO/Committee to check physically.

(e) Solider should be able to change the ammunition magazine from weapon without losing the ballistic shield protection in front.

BOO/Committee to check physically.

**3. Workmanship**

Ballistic shield should be free from wrinkles, blisters, cracks or fabric tears, crazing, chipping or sharp corners or other evidence of inferior workmanship.

Board of Officers (BOO) should examine the quality of workmanship of ballistic shield on a large flat clean surface with adequate lighting.

If any tear or deformity found, Board of Officers reject the sample.

**4. Dimensions & Weight**

As per Appendix 'A'

BOO/Committee will check.

*Note: The design and dimensional parameters suggested in this QRs may be used by the Law Enforcement Agencies as guidelines. However, user organization may define their own parameters considering their functional/operational requirements.*

113  
196

5. **Operational Aids: Ballistic Shield**

- (a) Should have the provision of High resolution camera with capability to function effectively during day and night.
- (b) Should have display screen on the rear side of the ballistic shield facing the user/soldier to get the real time frontal view.
- (c) Camera should have the facility to record the real time video with storage capacity for 45 minutes.
- (d) Should have the provision of infrared illuminator (optional).
- (e) Should have the self-standing capability (eg. Shield with kick stand) (optional).

*Note: The design and specifications for camera and other operational aids mentioned above may be defined by the user organizations /Law Enforcement Agencies considering their functional/operational requirements.*

4. **Protection Level**

(Table-2)

Ser No.	Ammunition	Bullet Weight (g)	Bullet type	Impact Velocity (m/s)	Distance of impact (m)
1.	5.56 x 45 mm	3.5- 4.0	FMJ (SI+Pb)	890±15	10±0.5
2.	7.62 x 39 mm	7.45-8.05	HSC	700±15	10±15.
3.	7.62x 51 mm	9.4-9.6	FMJ/Pb	840±15	10±15

*Note: FMJ: Full Metal Jacket, MSC: Mild Steel Core, HSC: Hard Steel Core Pb: Lead Core, SI: Steel insert*

5. **Radiographic/Thermographic Test**

X Ray images are to be taken to inspect cracks, delamination or any other defects on the surface of ballistic shield by the testing agency. If any crack or defect found on the surface, Testing Agency will declare the spot as weak point and one shot must be fired on this weak point during ballistic testing. This test will ensure that ceramic layer, if any, is provided evenly up to the edges.

110  
25

6. Ballistic Testing (Single Shot Test)

(Table-3)

Ser No.	Ammunition	Minimum no. of shots (in Nos) at 0°	Minimum range (in Meters)	Impact Velocity (m/s)	Shot to Shot and Edge to Shot Distance (in mm)
1.	5.56 x 45 mm	06	10±0.5	890±15	50
2.	7.62 x 39 mm	06	10±15	700±15	
3.	7.62x 51 mm	06	10±15	840±15	

**Fair hit or Strike:** A fair hit is that which adheres to all the rules set out below:

- Shots must be a minimum of 50 mm from the edges of the panel for all ammunitions.
- All shots must be a minimum of 50 mm from any other shots.
- The velocity must be within the tolerances set out in Table.

If a shot does not meet these criteria, it will be classed as an unfair hit or strike. Unfair hits or strikes may be accepted according to the criteria for "accepted hit or strike"; otherwise they will be repeated.

**Accepted hit or strike:** An accepted hit or strike will conform to the criteria for a "fair hit or strike". Unfair hits or strike will also be accepted if:

- The shot is closer than 50 mm to the edges and the bullet is held by the Ballistic Shield but not perforated/ pierced.
- The impact velocity is above the specified test limits and the bullet is held by the Ballistic Shield but not perforated/ pierced.
- The impact velocity is below the specified test limits, resulting in a perforation/ pierced.

Any shots that do not meet these criteria will be classed as rejected and must be repeated

Notes:

- *The testing agency should be selected by the user organization/Law Enforcement Agencies.*
- *Discontinuities or Points of apparent weakness must be identified by the testing agencies before ballistic testing, vendors/manufacturers/suppliers must submit a build sheet and diagram/drawing of construction for the shield sample. Testing agency will ensure that any attachments and attachment points of the shield must be tested and demonstrate that protection is not reduced nor any secondary projectile produced.*
- *In view of the above, the pattern of shots shall be defined by the testing agency prior to ballistic testing and the specified pattern of shot must be uniformed for all the samples submitted by vendors/manufacturers/suppliers.*

124

7. Ballistic Testing (Multi Shots Test)

(Table-4)

Ser No.	Ammunition	Minimum no. of shots (in Nos) at 0°	Minimum range (in Meters)	Reference Velocity (m/s)	Shot Pattern
1	7.62 x 39 mm	10	10 ± 15	700 ± 15	Burst of 2-3 rounds

*Note: The clause of shot to shot and edge to shot shall not be applicable in case of multi shot test. All the shots should be held by the ballistic shield, in case of any perforation/pierced the sample will be considered as failed.*

8. Wet Test (Optional, and tested against 7.62 x 39 mm, HSC, Multi Shot Test)

Before the sample is tested it shall be fully submerged in water (at 15° C to 20° C) for a period of one hour. It shall then be removed and allowed to dry for three minutes in a room held at a temperature of approximately 21 ± 5° C, and 50 per cent to 70 per cent humidity. The first burst shall impact within five minutes of the completion of the drying period, and the final burst fired within one hour.

9. Extreme Temperature Test (Optional, and tested against 7.62 x 39 mm, HSC, Multi Shot Test)

Before the sample is tested it shall be heated to 50° C ± 3° C for a period of 1 hour. The first burst should impact within five minutes and last burst fired within one hour of removal of ballistic shield from the heating chamber.

10. **Serviceability:** Five Years operational life.

11. **Storage:** Ballistic Shield should be stored at normal room temperature either hung on brackets or leaned against a vertical surface. In any condition the no weight/pressure should be on the striking face of the ballistic shield. The ballistic shield should not be placed in such a manner that the striking face of the shield is touching the floor ground.

12. **User Manual:** User manual should be provided by a supplier with each Ballistic Shield containing the following information:

- Identification and description of the type of threat protection provided.
- Design and drawing mentioning all the dimensions and weight.
- Complete construction details.
- Coverage - area of coverage, curvature, and shape of shields.
- Complete details of all accessories and their usability.
- Care and maintenance guidance.
- Accessory wise warranty period.
- Any other relevant information

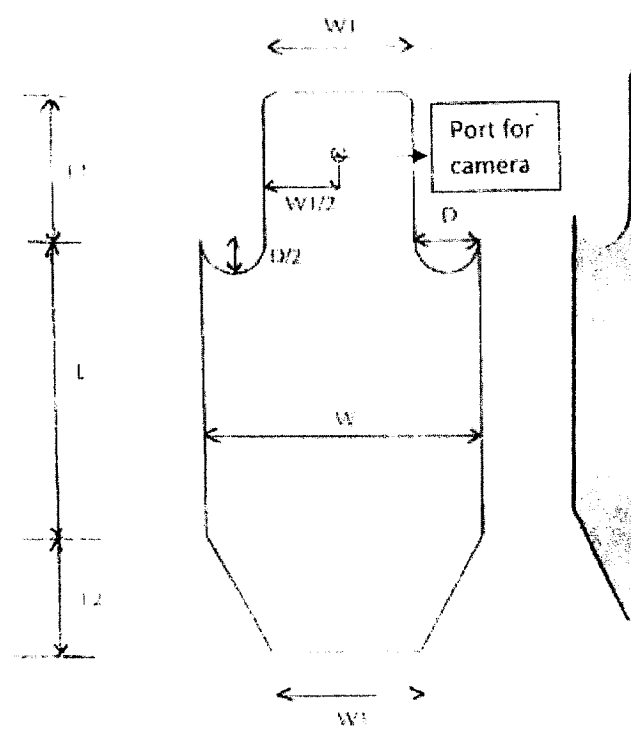
13. **Testing Facilities:** Ballistic trials as per the QRs will be held either at CFSI, TBRL, Chandigarh and GFSU or any other facility as decided by Technical Evaluation Committee/User organizations.

*Notes:*

- *The QRs are dynamic/live and may be amended only on the approval of competent authority.*
- *The QRs have been drawn jointly with the association of CAPFs, State Police Forces, DRDO (TBRL, DIPAS, DMSRDE Kanpur), GFSU, CFSI Chandigarh, AIIMS Delhi, IIT Delhi, BIS and DGQA.*
- *The level of protection is limited to ammunitions mentioned in QRs.*

\*\*\*\*\*

### Front View Of Ballistic Shield



Scaled Dimentions	Small Size	Large Size
L	40 cm	46 cm
L1	20 cm	22 cm
L2	16 cm	18 cm
W	39 cm	52 cm
W1	21 cm	28 cm
D	9 cm	12 cm
Other Parameters	Small size	Large Size
Weight	10 kg (inclusive of all accessories)	13 Kg (inclusive of all accessories)
Area	2394.65 Sq. cm	3273.71 Sq. cm
Location of camera is suggestive, same can be fixed by the user organisation as per their requirement.		
Negative tolerance in dimentions is not permissible.		

3

21

**DIRECTOR GENERAL ~~ARMED~~ SECURITY FORCE**  
**(PROVISIONING DIRECTORATE (Mod Cell))**

**EXPRESSION OF INTEREST**

Commandant (Ord)  
HQ DG BSF, Prov Dte (Ord Sec)  
Block No. 10, CGO Complex  
Lodhi Road, New Delhi  
(Tele/Fax No. 011-24367683)  
Mail id : comdtord.bsf.nic.in

The Sub-group of Technical Experts constituted by MHA vide their letter No. IV-24011/12/2011-Prov-I dated 13 Jun 2012, No. IV-24011/12/2011-Prov-I dated 28 Dec 2012 & UO No. IV-24011/12/2011-Prov-I- 350 dated 27 Jun 2013 held its meeting at BSF Headquarters on 10-02-2016 and 30<sup>th</sup> Aug 2017 the Qualitative Requirement of 'Digital Night Vision Goggles'.

After detailed deliberations the referred Sub-group has revised the QRs of 'Digital Night Vision Goggles', which are as under:-

**QUALITATIVE REQUIREMENTS OF DIGITAL NIGHT VISION GOGGLES**

S.No.	SPECIFICATIONS	
1	General Description	It should allow a complete hands free operation and the vision should not get effected by normal head movements. It should be head/helmet mountable or should fit to the head like a snow/ballistic goggle.
2	Magnification	1 x .
3	Field of view	40°.
4	Eye relief	12 to 15 mm.
5	Power supply	Up to 3 V.
6	Maximum Range	400 Meter
7	Operating temperature	-10° C to +50° C.
8	Weight	450 gm to 650 gm (Including battery).
9	Battery life	6 to 8 Hrs. in operational mode.
10	Low Battery indicator	Low battery indication should be provided inside the Field of View.
11	Camera Resolution	High Definition.
12	Diaptor Adjustment	± 2 d or automatic.
13	Battery type	Rechargeable Lithium ion battery with suitable battery charger.
14	IR Illuminator Power	75 to 95 mW.
15	Environmental requirement	Equipment must conform to JSS 55555 or Mil Std. 810F or better.
16	AGC	It should have automatic gain control.
17	Safety	It should not get damaged if faced towards sun, flash from HHSL/Tactical Light.

A



18	Should be able to compensate instant dark light or light to dark conditions.	
19	Carrying case	Equipment should be supplied with a water proof soft carrying case.
20	Transportation box	A suitably hardened ruggedized transportation box to be provided.
21	Signal Processing Program.	The use of sun light substantially sensitivity of the CCD array, enabling observation in low light without using the IR illuminator.
22	Built in laser IR Illuminator.	Built in IR Laser illuminator (class one eye safe) to provide effective observation of remote objects in total darkness.

**Note: - All firm are requested to comment upon the above mentioned QRs and furnish original OEM Brochures/catalogues.**

The sub-group has decided to upload the QRs on BSF website for 15 days to invite the views/comments/suggestions of prospective bidders to make the QRs more broad based.

*R. Singh*  
05/11/17

(Rishipal Singh)

Second In Command (Mod)

**DIRECTOR GENERAL BORDER SECURITY FORCE**  
**(PROVISIONING DIRECTORATE (ORD SECTION))**

Appendix - A'

(6.2) (36)

19

The Sub-group of Technical Experts on Surveillance Equipments constituted by MHA vide their letter No. IV-1017/18/2001-Prov-I dated 05 Jul 2002 held its meeting at BSF Headquarters on 26 Apr 2013, 1<sup>st</sup> Aug 2013 and 12<sup>th</sup> Sept' 2013 to formulate/revise the QRs of 'Hand Held Thermal Imager (Cooled Version)'.

After detailed deliberations the referred Sub-group has revised the QRs of 'Hand Held Thermal Imager (Cooled Version)' which are as under:-

**QUALITATIVE REQUIREMENT OF HAND HELD THERMAL IMAGER (COOLED VERSION)**

S no.	SPECIFICATIONS																																				
1.	<p><b>The HHTI should:-</b></p> <ul style="list-style-type: none"> <li>a. Be binocular / biocular.</li> <li>b. Have capability to produce real time picture.</li> <li>c. Have a suitable tint to reduce eyestrain. This feature should help the observer to quickly regain his normal vision.</li> <li>d. Be ruggedized as per latest Mil Std and complied with IP 65 standards.</li> <li>e. Have a ruggedized container for transportation.</li> <li>f. Provide real time pixel level sensor fusion between TI &amp; Day camera mode.</li> <li>g. Function on 90 volt to 250 volt 50 Hz AC mains and generator through AC/DC adopter.</li> <li>h. Day &amp; Thermal Imager camera should be integrated in a single housing.</li> </ul>																																				
2.	<p><b>Range:</b></p> <table border="0"> <tr> <td style="padding-right: 20px;">a) Day observation</td> <td style="padding-right: 20px;">- for human target:</td> <td>Detection - 5 Km (min)</td> </tr> <tr> <td></td> <td></td> <td>Recognition - 2.5 Km (min)</td> </tr> <tr> <td></td> <td></td> <td>Identification-1 Km (min)</td> </tr> <tr> <td></td> <td style="padding-left: 20px;">for Vehicle :</td> <td>Detection - 9 Km (min)</td> </tr> <tr> <td></td> <td></td> <td>Recognition - 4.5 Km (min)</td> </tr> <tr> <td></td> <td></td> <td>Identification- 2.5 Km (min)</td> </tr> <tr> <td style="padding-right: 20px;">b) Night observation</td> <td style="padding-right: 20px;">- for human target:</td> <td>Detection - 3 Km (min)</td> </tr> <tr> <td></td> <td></td> <td>Recognition - 1.5 Km (min)</td> </tr> <tr> <td></td> <td></td> <td>Identification- 750 mtrs (min)</td> </tr> <tr> <td></td> <td style="padding-left: 20px;">for Vehicle :</td> <td>Detection - 8 Km (min)</td> </tr> <tr> <td></td> <td></td> <td>Recognition - 2.5 Km (min)</td> </tr> <tr> <td></td> <td></td> <td>Identification- 1 Km (min)</td> </tr> </table> <p align="center"><b>Note: Vehicle dimensions 4010 x 1540 x 1875 mm (lxbxh)</b></p>	a) Day observation	- for human target:	Detection - 5 Km (min)			Recognition - 2.5 Km (min)			Identification-1 Km (min)		for Vehicle :	Detection - 9 Km (min)			Recognition - 4.5 Km (min)			Identification- 2.5 Km (min)	b) Night observation	- for human target:	Detection - 3 Km (min)			Recognition - 1.5 Km (min)			Identification- 750 mtrs (min)		for Vehicle :	Detection - 8 Km (min)			Recognition - 2.5 Km (min)			Identification- 1 Km (min)
a) Day observation	- for human target:	Detection - 5 Km (min)																																			
		Recognition - 2.5 Km (min)																																			
		Identification-1 Km (min)																																			
	for Vehicle :	Detection - 9 Km (min)																																			
		Recognition - 4.5 Km (min)																																			
		Identification- 2.5 Km (min)																																			
b) Night observation	- for human target:	Detection - 3 Km (min)																																			
		Recognition - 1.5 Km (min)																																			
		Identification- 750 mtrs (min)																																			
	for Vehicle :	Detection - 8 Km (min)																																			
		Recognition - 2.5 Km (min)																																			
		Identification- 1 Km (min)																																			
3.	<p><b>Thermal Imager camera should have :</b></p> <ul style="list-style-type: none"> <li>a) Cryogenic-Stirling Closed Cycle – Detector Dewar Cooler for IR detector.</li> <li>b) Advanced IR Detector having resolution 640 x 512 for sharper Thermal Images.</li> <li>c) <b>Spectral range:</b> LWIR/MWIR or both.</li> <li>d) <b>Field of view :</b> <ul style="list-style-type: none"> <li>Wide 12.5° x 10° (min)</li> <li>Narrow 2.5° x 2° (max)</li> </ul> </li> <li>e) <b>Magnification:</b> Minimum 5X (continuous zoom).</li> <li>f) <b>Digital zoom:</b> 4X (min)</li> <li>g) Automatic and manual focusing facility.</li> <li>h) Non Uniformity Calibration (NUC).</li> <li>i) The camera initialization time to ready should not be more than 8 minutes.</li> <li>j) Penetrate darkness, haze and smoke</li> </ul>																																				


*[Handwritten signature]*  
12/9/13  
*[Handwritten initials]*


*[Handwritten signatures]*


	k) Be immune to glare of searchlights. l) Not get damaged if faced towards Sun accidentally. m) Warranty on the Detector Dewar Cooler should not be less than 4 years.
4.	<b>Day camera should have</b> a) CCD/CMOS colour Camera b) Resolution 754x576 (min) c) Optical zoom 5X (min). d) Digital zoom 4X (min) e) One shot focus (AF/Manual).
5.	<b>Operator console unit:</b> a) This must comprise a ruggedized OLED/LED colour display of size 15" (minimum). b) The console unit should have the facility to show the map in the background correlated with the video of the cameras. c) A suitable provision of the control keys or joystick should be provided to operate the system remotely with comfort. d) The console should have recovery option in the system itself whenever software gets corrupted. e) The console should have the provision to control the operation of day & night camera and Pan & Tilt sub systems. f) The console should have scan around facility automatically whenever required. g) The console must incorporate built in test equipment (BITE). h) Should have ports for external PC interface, Ethernet and digital & analogue video out.
6.	The system should have the provision to use as hand held mode and remotely operated mode when mounted on Tripod/mast.
7.	<b>Internal display:</b> Advanced high resolution colour OLED display having resolution 640x512 (min).
8.	<b>Inter Pupillary Distance (IPD):</b> Adjustable
9.	<b>Operating Temp Range:</b> -20 degree to +55 degree centigrade.
10.	<b>Reticule for range estimation:</b> in built.
11.	<b>It should have provision for external video output (PAL).</b>
12.	<b>PAN and Tilt Mechanism:</b> High precision motorised pan and tilt unit with variable speed facility. a) Azimuth (Pan) for 360° b) Elevation (Tilt) for ± 45°
13.	<b>Remote surveillance facility :</b> (i) Console should be able to operate and control the equipment through wire (100 meters minimum). (ii) To stream imagery over wireless link (500 meters minimum NLOS and 5000 meters minimum LOS with encryption). <b>NOTE: Wireless link range for imagery transmission to be specified by the user at the time of indent</b>
14.	<b>Digital Magnetic Compass (DMC):</b> Inbuilt DMC should be provided for auto Northing. Accuracy should be ≤ 1° and resolution 1° or better.
15.	<b>Global Positioning System (GPS) :</b> Inbuilt GPS to provide own position during initialization. It should give co-ordinates in Lat-Lon and Indian Military GR system. Accuracy should be < 10 meters.
16.	<b>Video Recording Capability :</b> Advanced inbuilt storage memory of 1TB (min) exclusively to store the video should be provided in the console. The system should have facility to retrieve the stored data.
17.	<b>Weight:</b> hand held unit should not be more than 4 kg with battery.

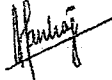
12/9/12

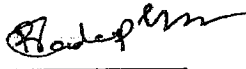
18.	<b>Battery/Power Source:</b> Should have Lithium-ion rechargeable battery or better to operate the system. The battery should have battery status bar graph indication to get the charge status of the battery.
19.	<b>Battery Performance:</b> The battery (s) should be able to run the system for 3 hours or more in operational mode on single charge.
20.	<b>Spare Batteries:</b> for additional cycle of operation, 3 spare batteries be provided.
21.	<b>Battery Charger:</b> A smart and Intelligent, Universal Charger for charging the battery from 90 volt to 250 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 ≤ 5 hours.
22.	<b>User Manual and Operation Instructions:</b> Detailed operators Instructions, Technical literature, Maintenance Manual and Inspection standards be provided with the equipment.
23.	<b>Engineering support:</b> a) Adequate number of spares including DDC, Modules used (5 no's each along with 50 no's system) etc. b) Test Station with Test Equipment for repair & maintenance of the system (Base workshop level).
24.	<b>Training:</b> a) <b>Base Workshop level training</b> to minimum 10 technicians at OEM premises on full flash running testing, diagnostic and calibration set up. b) <b>Operator level training</b> should be imparted to minimum 100 persons.


  
12/9/13  
(B.C. Joshi) DIG, SIW BSF

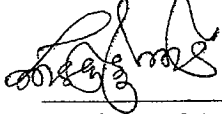
  
(Dr. S.K. Saha, Jt BSF)

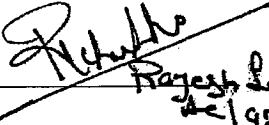
  
(A. CHATURVEDI)  
COL GCJSC  
NSG


  
(Abhiram Panjaj)  
DS, CRPF

  
[PRADEEP KUMAR]  
DGRA/nam-9 JE(SA)

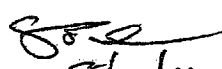
  
M.K. Shukla Asst. Dir. CSF

  
R.K. KUMBHARA  
AC(COMM), SSB

  
Rajesh Kumar  
AC/ADITBSF

  
INSP PRADEEP SHARMA  
SIW BSF

APPROVED / NOT APPROVED

  
8/11/13  
(SUBHASH JOSHI), IPS  
DIRECTOR GENERAL, BSF

136 16

No. U.II-23/2010-11-Prov (CoBRA) 9534  
भारत सरकार/Government of India  
गृह मंत्रालय/Ministry of Home Affairs

पुलिस आधुनिकीकरण प्रभाग /Police Modernization Division  
संभरण-I डेस्क /Prov.I Desk

9584  
10700/114

DELHI  
2-587  
Date: 11-11-14

26, Man Singh Road, Jaisalmer House,  
New Delhi, the 5<sup>th</sup> November, 2014

To,  
The DsG: AR (through LOAR), BSF, CISF, CRPF, ITBP, SSB, NSG & BPR&D.

**Subject: Revised QRs/Specifications and Trial Directives of Light Weight Sleeping Bag.**

Sir (s),  
The undersigned is directed to refer to the subject mentioned above and to say that the revised QRs/Specifications and Trial Directive in respect of Light Weight Sleeping Bag as per Annex-I and Annex-II respectively have been approved by the competent authority in MHA:

- Henceforth, all the CAPFs should procure the above item required by them strictly as per the laid down QRs/Specification.
- The QRs/Specifications of Light Weight Sleeping Bag issued earlier vide letter of even No. dated 22.08.2013 is rescinded.

Yours faithfully,

*(Signature)*  
11/11/14  
(M. K. Chahar)

Under Secretary to the Govt. of India

Encl: As\*above.

Copy forwarded for necessary action to:

SO (IT), MHA - with the request to host the revised Trial Directives on official website of MHA (under the page of Organizational Set up, Police Modernization Division) and remove earlier QRs/Specifications vide letter of even number dated 22.08.2013 (<http://mha1.nic.in/QRs/clothings/ClothingLightWgSleepingBag-010413.pdf>). Soft copy is being sent through email also.

*(Signature)*  
(R. K. Soni)  
Section officer (Prov-I)

Copy to: Director (Procurement) MHA P.S.

Pl send one copy to *(handwritten)*

*(handwritten)*  
A  
DIA

2586  
1211114

*(handwritten)*  
Fy (Prov)  
A  
(CTS)  
M/11

2. SPECIFICATIONS

Size	1. Length:- 208-215 Cms 2. Width:- 74-78 Cms 3. Width:- 50-52 Cms The reference diagram of the Light Weight Sleeping Bag is as per appendix- "A"
Net Weight	650 -710 gram
Shell Material	100% Nylon 210T or 100% Polyester 210T
Lining	100% Polyester 210T Taffeta
Insulation/Filling	100% Polyester(preferably micro-mixed containing 1.5D superfine hollow fiber) 50 g/m <sup>2</sup>
Zipper	Heavy duty synthetic
Packing Bag	Approx 13 ± 2 x 20± 2 cms
Colour Specification	Olive Green as per appendix "B"

3. MECHANICAL PROPERTIES

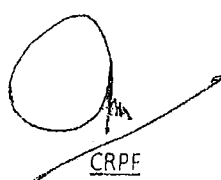
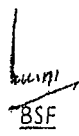
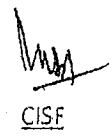





- Size:** It should be possible for a 6 feet tall man to be fully encased inside the sleeping bag. The bag will be tested directly for this.
- Dry Insulation:** The basic purpose of the sleeping bag is thermal insulation, that is protection from outside cold.
- Wet Insulation:** Soldiers in the field might be exposed to rain as they are sleeping. This is likely to make the outer surface of the sleeping bag wet. The purpose is to check whether a wet sleeping bag would transmit more cold to the user.
- Water Resistance:** Water resistance of the sleeping bag refers to the amount of water that may seep in when the sleeping bag is subjected to rain. It may seep through the fabric, the zipper or the stitching.

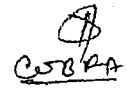
4. SAMPLE FOR TESTING

The firm will submit two samples for testing with their technical bid.

5. WORKMANSHIP AND FINISH

The general workmanship and finish must be of high standard. The bag shall be free from stitching defects like uneven stitch, puckering, gathering of threads, cuts & holes, streaky or patchy dyeing, stains and any other spots affecting the aesthetic appearance.

 CRPF    
  BSF    
  CISF    
  SSB    
  ITBP    
  A/Rifle    
  BPR&D    
  M.S.G.

 CSBPA

## 10 KVA 1 PHASE ONLINE UPS

INPUT		
Nominal Voltage	208VAC/220VAC/230VAC	
Acceptable Voltage Range	165 ~285 VAC	
Frequency	40 Hz~55Hz @ 50 Hz system	
EFFICIENCY		
AC Mode	87.00%	
Battery Mode	91%	
EXTERNAL BATTERY		
Recommended Battery Type	DEFAULT : VRLA / SMF BATTERY TUBULAR BATTERY : OK (WITH CHARGER CUT- OFF VOLT ADJUSTABLE FROM LCD DISPLAY)	
Numbers	16	
Charging Current (Max.)	Default: 8A±10%; Max: 2A, 4A, 8A (Adjustable)	
Charging Voltage (Default)	Boost Voltage : 224Vdc +-1%, 14.0V/Battery	
	Float Voltage : 217.6Vdc +- 1%, 13.6V/Battery	
INDICATORS		
LCD	Load Level, Battery Level, AC Mode, Battery Mode, Bypass Mode, and Fault Indicators	
ALARM		
Battery Mode	Sounding every 4 seconds	
Low Battery	Sounding every second	
Overload	Sounding twice every second	
Fault	Continuously sounding	
PHYSICAL		
Dimension, DxWxH(mm)	562 x 250 x 830	
Net Weight (kgs)	78	
OUTPUT		
Nominal Voltage	208VAC/220VAC/230VAC	
Voltage Regulation	± 1 %	
Frequency Range (Synchronized Range) (Mains Mode)	45Hz~55Hz	
Frequency Range (Battery Mode)	50 Hz ± 0.1 Hz	
Overload Specs (Mains Mode)	110%- 120% : 30 MIN	
	120% – 130% : 5MIN	
	>130% : 1 SEC	
Overload Specs (Battery Mode)	110% – 120% : 3 MIN	
	120% – 130% : 1 MIN	
	> 130% : 1 SEC	
Current Crest Ratio	03:01	
Harmonic Distortion	≤ 3 % THD (Linear Load)	
	≤ 5% THD (Non-Linear Load)	
Transfer Time	AC to DC	Zero
	Inverter to Bypass	Zero (Turn OFF / Common Fault)
	Bypass to Inverter	< 5ms (Turn ON/ System Recovery)

Waveform (Battery Mode)		Pure Sine wave
<b>ENVIRONMENT</b>		
Operating Temperature	0~50°C (Battery life cycle will shorten when temperature is above 25°C)	
Humidity	0~95% (Non-Condensing)	
Noise Level	Less than 50dB @ 1 Meter	
<b>MANAGEMENT</b>		
Modbus RS-232/RS485	Supports Windows® 2000/2003/XP/Vista/2008/7/8, Linux and MAC	
Dry Contact	5 Signals: AC Failure, Low Battery, UPS Alarm, Bypass and UPS Fault	
Optional SNMP	Power Management from SNMP Manager and Web Browser	
Warranty	One Year	



# Rino® 750

<b>PHYSICAL DIMENSIONS</b>	2.6" x 7.9" x 1.6" (6.6 x 20.1 x 4.1 cm)
<b>WEIGHT</b>	12.3 oz (348 g) with battery pack
<b>WATER RATING</b>	IPX7
<b>BATTERY</b>	removable, rechargeable lithium-ion battery pack; AA battery pack (not included)
<b>DISPLAY TYPE</b>	3.0" transfective, 65K color TFT
<b>DISPLAY SIZE</b>	1.53" x 2.55" (3.8 x 6.4 cm); 3.0" diag (7.6 cm)
<b>DISPLAY RESOLUTION</b>	240 x 400 pixels
<b>BATTERY LIFE</b>	up to 14 hours (up to 18 hours with optional AA battery pack at 2 watts)
<b>MEMORY/HISTORY</b>	1.7 GB
<b>TRANSMIT POWER</b>	0.5 watts FRS, 2.0 watts GMRS (Canada), 5.0 watts, GMRS (US)
<b>HIGH-SENSITIVITY RECEIVER</b>	
<b>INTERFACE</b>	high-speed USB and NMEA 0183 compatible
<b>MAPS &amp; MEMORY</b>	
<b>ABILITY TO ADD MAPS</b>	
<b>BASEMAP</b>	
<b>STORAGE AND POWER CAPACITY</b>	microSD™ card (not included)
<b>WAYPOINTS/FAVORITES/LOCATIONS</b>	10,000
<b>ROUTES</b>	250
<b>TRACK LOG</b>	20,000 points, 200 saved tracks
<b>SENSORS</b>	
<b>BAROMETRIC ALTIMETER</b>	
<b>COMPASS</b>	Yes (tilt-compensated 3-axis)
<b>OUTDOOR RECREATION FEATURES</b>	
<b>AREA CALCULATION</b>	
<b>AUTOMATIC ROUTING (TURN BY TURN ROUTING ON ROADS)</b>	
<b>GEOCACHING-FRIENDLY</b>	
<b>HUNT/FISH CALENDAR</b>	
<b>SUN AND MOON INFORMATION</b>	
<b>CAMERA</b>	no
<b>PICTURE VIEWER</b>	
<b>TWO-WAY RADIO FEATURES</b>	
<b>FREQUENCY BAND</b>	FRS and GMRS
<b>CHANNELS</b>	22
<b>SQUELCH CODES</b>	38 (CTCSS); 83 (DCS)
<b>RANGE</b>	Up to 2 miles over FRS; up to 20 miles over GMRS (US); up to 13 km over GMRS (Canada)
<b>VOX (VOICE ACTIVATION)</b>	
<b>LOCATION REPORTING (SEND AND RECEIVE GPS POSITIONS)</b>	
<b>VIBRATION ALERT</b>	
<b>NOAA WEATHER RADIO</b>	

10

**ADDITIONAL**

69

**ADDITIONAL**

Contacts: 50

Map segments: 15,000

High-sensitivity, WAAS-enabled GPS receiver with HotFix® and GLONASS support: yes

Geocaching Live: yes

Active Weather support: yes

Bluetooth® ANT+® capable: yes

BirdsEye Satellite Imagery: not included

Custom Maps compatible: yes

Charges via a standard mini USB
