CORRIGENDUM

H7/65613/2017/PHQ

Dated: 15/11/2018

Tenders were invited for the supply of Bullet Proof Jacket vide PHQ Tender No. KPET/71/2018/PHQ Dated 30.10.2018 (Tender ID : 2018_KP_245505_1). The specification of the item is modified. The last date for submission of the above Tender is extended to 22.11.2018, 12 Noon as furnished below.

Last date : 22.11.2018 12 Noon
Opening date : 24.11.2018 3.00 PM
Technical Evaluation date : 28.11.2018 10.30 AM

All other terms and conditions mentioned in the above Tender Notice remains the same. For more clarification contact Junior Superintendent, Modernisation Section, PHQ (Ph. No. 0471-2722768-1289).

Additional Assistant Inspector General of Police
For State Police Chief, Kerala
QRs/SPECIFICATION FOR BULLET PROOF JACKETS
FOR COMMANDOS, KERALA POLICE

DESIGN PARAMETERS FOR BP JACKETS

A. Shall confirm to MHA Level III+ of Ballistic Resistance of Personal Body Armour (updated revision) Protection against all of the following weapons:
   a. 9x19mm cartridge fired through Sub Machine Gun (such as Sten machine, MP 5, Carbine, any other variant) from a distance of 5 meters to achieve a muzzle velocity 430 ± 15 m/s and the weight of the bullet between 7.4 gm to 8.2 gm
   b. 7.62x51 mm cartridge NATO ball ammunition fired through 7.62mm SLR/BOLT Action from a distance of 10 meters to achieve a muzzle velocity 838 m/s ± 15 m/s and the weight of the bullet 9.4g to 9.6 g.
   c. 7.62x39 mm (mild steel core bullet) cartridge fired through AK series rifles from a distance of 10 meters to achieve a muzzle velocity 715 m/s ± 15 m/s and the weight of the bullet 7.45g to 8.05g.
   d. 7.62x39 mm (hard steel core bullet) cartridge fired through AK series rifles from a distance of 10 meters to achieve a muzzle velocity 635 m/s ± 15 m/s and the weight of the bullet 7.45g to 8.05g.
   e. 5.56 x 45mm Ball MK M (Equivalent to 5.56 mm NATO (M 193)) cartridge fired through INSAS rifles from a distance of 10 meters to achieve a muzzle velocity 890 ± 15 m/s and the weight of the bullet 3.5 gm to 4.0 gm.

B. Vest should have the components mentioned in para D below. Each component should be made of multi layers of same material. Each layer will be in single piece and of equal shape and size to maintain uniform thickness all over area up to edge level.

C. SIZES OF SOFT ARMOUR PANEL (SAP)- STANDARD, LARGE & EXTRA LARGE. SAP shall be covered with durable water repellant fabric that
exhibits excellent sealing properties thus protecting the ballistic material from moisture

D. AREAS OF COMPONENTS OF SOFT ARMOUR PANEL

Coverage area of the soft armour panel as per the sizes will be as under:

<table>
<thead>
<tr>
<th>S.No</th>
<th>PANEL</th>
<th>STANDARD SIZE (Sq. Mtr)</th>
<th>LARGE SIZE (Sq. Mtr)</th>
<th>EXTRA LARGE SIZE (Sq. Mtr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FRONT</td>
<td>0.15</td>
<td>0.18</td>
<td>0.21</td>
</tr>
<tr>
<td>2</td>
<td>BACK</td>
<td>0.24</td>
<td>0.26</td>
<td>0.28</td>
</tr>
<tr>
<td>3</td>
<td>COLLAR (TOTAL)</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>4</td>
<td>SHOULDER (TOTAL)</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
</tr>
<tr>
<td>5</td>
<td>GROIN</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>0.55</td>
<td>0.60</td>
<td>0.65</td>
</tr>
</tbody>
</table>

However, drawings of the various components of BR jacket should be as mentioned in trial directive published by MHA.

(i) Negative tolerance in terms of area measurement is not permissible.

(ii) Measurements will be made with the help of scaled drawing on graph paper and using planimeter.

E. WEIGHT OF THE JACKET

Total weight of BR Jacket including HAPs, SAPs, trauma pads and outer carrier should not exceed and mention below:-
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Size</th>
<th>Weight of Jacket without side plates when 25mm BFS is permissible (in kg)</th>
<th>Weight of Jacket with side plates when 25mm BFS is permissible (in kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Standard</td>
<td>7.1</td>
<td>8.9</td>
</tr>
<tr>
<td>2</td>
<td>Large</td>
<td>7.5</td>
<td>9.4</td>
</tr>
<tr>
<td>3</td>
<td>Extra Large</td>
<td>7.8</td>
<td>9.8</td>
</tr>
</tbody>
</table>

F. **Size of Hard Armour Panel** - 305mm x 254mm (dimensions as per MHA specifications)

G. Shall consist of an outer carrier, removable Soft Armour Panels (SAP) of aramid fiber/suitable material and Hard Armour Panel (HAP) made of High performance polyethylene plates/aramid fiber/composite materials or any other superior quality material.

The sizes of all HAP (front and rear) shall be as per the drawings and dimensions in MHA specifications.

**Negative tolerance in dimension of HAP is not permissible**

Thickness of the HAP – 25mm (maximum) considering user comfort.

H. **BPJACKET- CONSTRUCTION:**

(i) BR Jackets (without HAP) shall be in the form of jacket to provide protection against 9mm bullet (Threat level III+). It should not restrict overall movement of the neck of the weaver.

(ii) It should be lightweight and comfortable providing optimum mobility and speed.

(iii) Adjustable at the shoulders, waist and groin with appropriate fasteners
(hook and loop fasteners). An adjustable nylon belt of minimum 10 cm width should be provided with double locking of jacket with hook and loop fasteners.

(iv) The vendor has to declare the type of materials, number of layers and their aerial density in technical bid of tender and they have to maintain the same in bulk supply.

(v) The supplier must provide "Raw Material Assurance Certificate" in support of their SAP and HAP designs.

(vi) Supplier must provide Certificate from the original anti-ballistic material supplier, confirming that the required volume of material/grade is purchased for the commercial supply of BR Jacket and same is being used during bulk supply of BR Jacket.

(vii) SAP should be encased in polyurethane coated materials so as to make it water proof.

(viii) **Hook and Loop fasteners (VELCRO FASTENERS)** All the clothing flaps of the jackets should have high quality hook and loop fasteners, so that it can be worn and taken off easily/quickly. The quality and report of hook and loop fasteners including shears strength and peel strength should be as per Bureau of Indian Standards specifications IS: 8156-2014. The IS:8156-2014 may be available in the office of Bureau Indian Standards. Vendors will submit test reports on hook and loop fasteners from any NABL accredited lab or DMSRD (MOD), Kanpur.

(ix) **POCKET WITH FLAPS** The jacket should be provided with two external pockets in outer carrier to house two magazines of 5.56mm LMG in each pocket. Two pockets should also be provided to accommodate one grenade (HE 36) in each pocket. The size of each magazine is 19cm x 7.6cm x 3.5 cm and size of HE 36 GRENADE IS 110 mm X 65 mm.

(x) **BELT/KAMARBANDH** An additional belt of nylon/polyester weaving with minimum width of 10 mm should be provided around the waist to properly secure the B.R. jackets with the body of the wearer around waist, so that weight of jacket is distributed on waist/shoulders. Kamarbandh should be of same material as outer carrier with hook and loop fasteners.
(xi) Two pouches (one each on front and rear of outer carrier) should be provided to accommodate two 305 mm x 254 mm Hard Armour Plates.

(xii) Ballistic panels (SAPs & HAPs) shall be removable from outer carrier.

(xiii) Outer carrier shall be machine washable.

(xiv) **TRAUMA PAD FOR TRAUMA ATTENUATION**

   (a) Trauma pad must be provided behind the SAPs, so that it remains to body surface to provide proper cushioning.

   (b) It must cover uniformly up to edge level of the SAPs.

   (c) Back face Signature (BFS) should not exceed 25 mm in plasticine block at 30± 2.9 degree centigrade temperature of plasticine.

   (d) Drop test will be carried out as per MHA trial directives.

I **MATERIALS**

- The outer carrier shall be made of high tenacity, heavy duty, Abrasion proof and 100% vest integrity fabric having inbuilt water resistant and fire retardant properties.

- The fabric weight should not be less than 95 gm/m2.

- The fabric shall be treated for protection against water, fire (fire retardant) and ultra violet rays exposure.

- The fabric must be suitable to wear in the Kerala conditions of heat, rain and humidity.

- The inner side (body side) shall also be of a similar fabric and shall be treated for moisture and water repellency.

- The cloth of the carrier must be pre-shrunk before stitching.

- BP Jackets should be UV Proof.

- The vendor should supply 3 meters of each fabrics used both at the time of tender and from the actual production for testing.

**Note**: Parallel double stitching using polyester sewing thread shall be used
J  VEST FIT

- The overall length of the BR jacket shall be such that there is no "ride up" while sitting.
  - The overlapping degree of front and rear panels shall be such as to provide for maximum freedom of movement.

K  COLOUR :-  BLACK

L  LABELLLING :- The outer carrier and the two soft Armour panels must be labeled as per NIJ standards giving the following details.
  - Name of the Manufacturer;
  - Name of the Product:
  - Date of Manufacturing:
  - Date of Issue:
  - Threat level:
  - Size:
  - Serial No:
  - NIJ Standard:
  - Strike face of jacket should be clearly marked

M  SOFT ARMOUR PANEL (SAP)

- SAP shall be able to withstand MHA threat level III + in respect of the caliber & the weapon selected for trial and other parameters such as weight & velocity of the bullet in ammunition selected for trials.
  - Shall protect both front and back torsos.
  - Shall be made of Aramid/suitable material.
  - The weight of the Aramid/suitable Filament, denier and type of weave shall be so balanced as to make the SAP lightweight, soft and pliable.
  - The aerial density of the panels shall be such as to provide the rated ballistic and trauma protection.
  - No tears, rips, worn spots, discolorations, loose or torn
stitching and set wrinkles on the SAP shall be allowed.

- The panel shall be treated with approved and durable water repellent.
- The SAP shall be removable from outer carrier to allow for periodic cleaning.
- The SAP shall be placed in tightly sealed, water repellent and PU coated heavy duty fabric so as to make it completely waterproof.
- The material layers shall be stitched to a suitable pattern in case SAP is made of aramid.

Note: Tenderers must declare number of layers and type of material (aerial density of material) used for fabricating Soft Armour Panel and Hard Armour Panel as per original manufacturer of the material. Raw Material Assurance Certificate (RAMC) must be given from original manufacturer in respect of material for SAP and HAP, valid for a period of six months from the closing date of tender. The vendor has to declare number of layers used for fabricating SAP and HAP of tender samples and they have to maintain the same in bulk supplies.

N. HARD ARMOUR PLATE (HAP)

- Shall be made of high performance polyethylene/aramid fiber/composite materials or any other superior materials.
- Shall provide MHA level III + threat protection against ammunition mentioned in Para A from a distance of 10 meters in conjunction with SAP.
- Each plate should not weigh more than 1.90 kg for Standard size, 2.00kg for Larger size and 2.10 kg for Extra Large size.
- Shall be of minimum size 305mm x254mm to cover the vital parts of the body.
- Curvature of the HAP shall be suitable to fit the body contour
- HAP shall be shielded water repellent and PU coated heavy-duty fabric so as to make it completely water proof.
O. OTHER STIPULATIONS

<table>
<thead>
<tr>
<th>JACKET STYLE</th>
<th>POLICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICEABILITY</td>
<td>10 YEARS (HAP,SAP &amp; trauma pad)</td>
</tr>
<tr>
<td>GUARANTEE</td>
<td>The Outer Carrier along with trauma padding shall be guaranteed for a period of two years against all manufacturing defects.</td>
</tr>
<tr>
<td>TEMPERATURE</td>
<td>-50°C to +50°C (Operating temperature)</td>
</tr>
<tr>
<td>HUMIDITY</td>
<td>95% at 40°C</td>
</tr>
<tr>
<td>STORAGE</td>
<td>Normal room temperature</td>
</tr>
</tbody>
</table>

P. IMMUNITY LEVEL:

(a) **Hard Armour Plates**: The HAPs are to be tested in conjunction with SAPs.

- Six bullets NATO ball fired from 7.62 mm SLR/bolt action rifle from a distance of 10 meters at normal to the surface on each plate (Front and Rear).
- Six bullets (mild steel core) fired from 7.62 mm of AK rifle from a distance of 10 Mts. at normal to the surface on each plate (Front and rear).
- Six Bullets (hard steel core bullet) fired from 7.62 mm of AK rifles from a distance of 10 meters at normal to the surface on each plate (Front and rear).
- Six Bullets (hard steel core bullet) fired from 5.56 x 45mm Ball MK M (Equivalent to 5.56 mm NATO (M 193)) fired from 5.56 mm INSAS rifles from a distance of 10 meters at normal to the surface on each plate (Front and rear).

(b) **Soft Armour Panels**:

- Six shots fired through 9mm Sub Machine Gun (Such as Sten Machine, MP -5, Carbine, any other variant) from a distance 5 mts. With a muzzle velocity 430±15m/s and the weight of the bullet between 7.4 gm to 8.2 gm as specified in standard.
The velocities of bullets fired through weapons are given as follows:

<table>
<thead>
<tr>
<th>Armour Type</th>
<th>Test Bullet</th>
<th>Bullet Weight</th>
<th>Reference Velocity</th>
<th>Hits per Armour part at 0° angle of incidence</th>
<th>BFS *Depth Maximum</th>
<th>Shots per Panel</th>
<th>Shorts per panel (side plates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIIA</td>
<td>9mm FMJRN</td>
<td>7.4 gm to 8.2 gm</td>
<td>430±15</td>
<td>4+2 at 30° and 40° angle</td>
<td>25 mm</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>III</td>
<td>7.62 mm NATO FMJ</td>
<td>9.4 gm to 9.6 gm</td>
<td>838m/s±15</td>
<td>6</td>
<td>25 mm</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7.62 mm Mild Steel Core</td>
<td>7.45 g to 8.05 g</td>
<td>715m/s±15</td>
<td>6</td>
<td>25Mm</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>III +</td>
<td>7.62x39mm (hard steel core bullet)</td>
<td>7.5 gm to 8.05 gm</td>
<td>635±15 m/s</td>
<td>6</td>
<td>25 mm</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>5.56x45mm Ball MK M equivalent to 5.56mm NATO O (MI 93)</td>
<td>3.5 g to 4 g</td>
<td>890±15 m/s</td>
<td>6</td>
<td>25mm</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

- BFS –Back Face Signature on Plasticine.
- Selected weapon and lot of ammunition, for which reference velocity has been once achieved, will remain the same throughout ballistic testing of all tender samples of various firms.
All tests will be in accordance with the SOP. Any changes in the SOP will be decided by Technical Evaluation Committee.

Q TESTING CRITERIA

(i) Scientific inspections /ballistic trial of these BR Jackets will be conducted as per MHA trial directives.

(ii) Field trials as per the number of ammunitions as mentioned in Para P will be conducted at a suitable safe distance decided by Technical Evaluation Committee.

(iii) Groin Pad will be tested ballistically with 9mm SMC. Three evenly spaced fair hits at zero degree angle incidences shall be taken and BFS should not be exceed 25 mm.

Above these :-

- The supplier should have well-equipped office/workshop for maintenance.
- Supplier should have direct authorization from the Original Equipment Manufacturer (OEM) to participate in the tender. Necessary authorization documents should be made available in this regard.
- The name of the OEM along with the contact telephone numbers, addresses, fax numbers & e-mail address may be available for confirmations with the OEM about the status of the supplier.
- Minimum five years warranty for the equipment.
- AMC proposal for a period of 5 years after the warranty period, should be enclosed with the tender proposal
- AMC should be expressed as percentage of total product value (TPV) separately for each year of AMC
- Tender will be valuated based on the net liability to department which includes the product cost and AMC cost.
e-Government Procurement (e-GP)
NOTICE INVITING TENDER

The State Police Chief, Kerala Police Department, Government of Kerala invites online Global bids from reputed manufacturers/ authorized dealers or reputed vendors for the SUPPLY OF BULLET PROOF JACKET FOR COMMANDOS. The bidders should comply with the following general conditions in addition to the additional conditions of the instant tender.

**General**

1. The Bidder should be a reputed Original Equipment Manufacturers (OEM) or authorized dealer of OEM, who is having an Authorization Certificate from the OEM to participate in the tender floated by Kerala Police. Certificate from the OEM for sales and service, to be produced.

2. One bidder can not represent two suppliers/OEMs or quotes on their behalf in a particular tender.

3. The OEM/Bidder should have a well equipped service centre functioning in India (Preferably in Kerala) to cater to immediately after sales requirement; copy of Service Centre details must be enclosed along with Tender document. (Preferably bidder should have a Service Centre in Kerala/South India).

4. A reputed vendor can participate in the tender provided the vending outfit is functioning in the market for at least 10 years.

5. The Bidder should have valid GST registration. Copy of GST registration certificate should be enclosed along with the tender.
6. The bidder should have valid PAN/Taxation Index Number. Copy of PAN/Taxation Index Number allocation letter should be enclosed along with the tender.

7. The Bidder must fulfil the following minimum qualification criteria to prove the techno-commercial competence and submit the documents in support thereof:
   a). Valid Authorization letter from the OEM to attend this particular Tender.
   c). Last 3 year's financial status of the Bidder's/P&L and Balance Sheet/audit report of last 3 years.
   d). The bidder (authorized dealer/distributor) should have the dealership/distributionship for at least 3 (three) continuous consecutive years with the OEM.
   e). The Bidder has to submit a Warrantee Certificate along with invoices.
   f). In case of a propriety item, a certificate by the OEM to be attached.

<table>
<thead>
<tr>
<th></th>
<th>Tender No. &amp; Date</th>
<th>KPET/71/PHQ/2018 Dated 30/10/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Item</td>
<td><strong>SUPPLY OF BULLET PROOF JACKET FOR COMMANDOS</strong></td>
</tr>
<tr>
<td>3</td>
<td>Quantity</td>
<td>100 Nos.</td>
</tr>
<tr>
<td>4</td>
<td>Estimated Amount</td>
<td>Rs. 100 Lakhs</td>
</tr>
<tr>
<td>5</td>
<td>Tender Fees</td>
<td>Rs. 17250 + Tax = Rs. 19350/- (Rupees. Nineteen thousand three hundred and fifty only)</td>
</tr>
<tr>
<td>6</td>
<td>Earnest Money Deposit</td>
<td>Rs. 1,00,000/- (Rupees. One Lakh only)</td>
</tr>
<tr>
<td>7</td>
<td>Specifications</td>
<td>Attached in tender document</td>
</tr>
<tr>
<td>8</td>
<td>Date and time of publication of e-Tender</td>
<td>31/10/2018, 06:00 PM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Date of submission of e-Tender</td>
<td>31/10/2018, 06:00 PM To 15/11/2018, 12:00 NOON</td>
</tr>
<tr>
<td>10</td>
<td>Last date and time for online submission of e-tender</td>
<td><strong>15/11/2018, 12:00 NOON</strong></td>
</tr>
<tr>
<td>11</td>
<td>Date and time of opening of e-Tender</td>
<td>17/11/2018, 3:00 PM</td>
</tr>
<tr>
<td>12</td>
<td>Place of opening</td>
<td>Police Headquarters, Thiruvananthapuram</td>
</tr>
<tr>
<td>13</td>
<td>Date, Time and Place of Technical Evaluation</td>
<td><strong>23/11/2018, 10.30 AM, Police Headquarters, Thiruvananthapuram</strong></td>
</tr>
<tr>
<td>14</td>
<td>Bid Validity (Total Number of Days up to which the rates are to be firm)</td>
<td>180 days</td>
</tr>
<tr>
<td>15</td>
<td>Warranty &amp; AMC</td>
<td>Five years warranty. Charges for AMC/ATS for a period of five years after warranty period should be quoted in the financial Bid.</td>
</tr>
<tr>
<td>16</td>
<td>Address of Tender Inviting Authority</td>
<td>State Police Chief, Kerala, Vazhuthacaud, Thiruvananthapuram - 695010 Ph: 0471-2722566 Fax: 0471-2722566 e-mail: aig2phq.pol@<a href="mailto:kerala@gov.in">kerala@gov.in</a> Website: <a href="http://www.keralapolice.gov.in">www.keralapolice.gov.in</a></td>
</tr>
</tbody>
</table>

**9. Mode of submission of bids: - Online.** All Bid documents shall be submitted only in online procedure through the e-GP website [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in) in their designated online covers. Details of covers are given separately. No other mode of submission shall be accepted and such tenders will be rejected outright.

**10. Cover details: - No. of covers - 2. i) Technical Bid ii) Financial Bid.** The AMC/ATS after warranty period also to be quoted in the Financial Bid. In the case of Foreign Equipments, the rate must be quoted in Indian Rupees. The documents to be uploaded under each online covers are specified in the website.

**11. Downloading of e-Tender documents: -** The tender document can be downloaded from the e-GP website [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in) from the date and time of publication of e-tender onwards to last date and time for online submission of
12. Submission of e-Tender documents: - The digitally signed tender document and other specified documents shall be submitted online through the e-GP website www.etenders.kerala.gov.in well in advance before the last date and time mentioned above. No submission shall be allowed after the last date mentioned above.

13. Payment of Tender Fees: - A non-refundable tender fee shall be paid in online mode through the e-GP website www.etenders.kerala.gov.in at the time of bid submission. No other mode of payment shall be accepted. **The tenders of bidders who do not remit fees through online will be rejected outright.**

14. Payment of Earnest Money Deposit (EMD): - The EMD shall be paid in online mode through the e-GP website www.etenders.kerala.gov.in at the time of bid submission. No other mode of remittance shall be accepted.

15. Exemption from payment of EMD: - Bidders who are registered with Store Purchase Department, Kerala or National Small Scale Industries Corporation Ltd., New Delhi (for the items tendered) are exempted from submission of EMD. Those bidders claiming exemption shall submit valid registration certificate from the SPD, Kerala or NSSIC, New Delhi.

**Tenders of bidders who do not remit EMD online or do not upload documental proof (digitally signed) for exemption of EMD will be rejected outright.**

16. Withdrawal and re-submission of e-Tender: - The Bidders are at liberty to withdraw the submitted tender/documents and to submit fresh tender/documents till the last date and time of submission of the e-Tender after which withdrawal/re-submission will not be allowed.

17. Opening of e-Tenders: - The bids shall be opened online through the e-GP website www.etenders.kerala.gov.in at the Police Headquarters, Vazhuthacaud, Thiruvananthapuram on the date and time mentioned above in the presence of the Bidders/ authorized representatives who wish to attend at the above address. If the tender opening date happens to be a holiday or non-working day due to any valid reason, the tender opening process will be done on the next working day at the same time and place specified. Any change in the opening date/time/venue due to other reasons shall be informed by way of Corrigendum published in the e-GP website. The Technical Bids will be evaluated by a Technical Evaluation Committee and those that do not conform to the specifications or to the satisfaction of the Committee will be rejected. The financial bids of the Technically qualified Tenderers only will be considered for opening. The date of opening of financial Bids will be intimated to the concerned technically qualified tenderers, over phone/Fax/e-mail. This will be within 7 to 10 days of evaluation of technical bid.

18. Technical Evaluation: - All tenderers who quote for the supply of above equipment are required to be ready for live demonstration to be held in the Conference Hall of the Police Headquarters, TVPM on 23.11.2018 at 10.30 AM (or any other venue which will be intimated in due course). In the event of firms not able to show live demonstration, they need to convince the Technical Evaluation Committee about such inability and resort to
documentary/power point presentation with original product brochures/CDs/scale models/videos/slide shows etc. to the utmost satisfaction of the Technical Evaluation Committee. The Technical Evaluation Committee will be consisting of the following officials.

i. Inspector General of Police, Intelligence – Chairman
   (Ph. No. 0471-2554452)

ii. Superintendent of Police, Security – Member
    (Ph. No. 0471-2316897)

iii. Superintendent of Police, Internal Security – Member
    (Ph. No. 0471-2553377)

iv. Superintendent of Police, ICT – Member
    (Ph. No. 0471-2445965)

v. Superintendent of Police, Telecommunication – Member
   (Ph. No. 0471-2446347)

vii. Commandant, SISF – Member
    (Ph. No. 0471-2435080)

vii. DC Security, SBCID – Member
    (Ph. No. 0471-2314123)

(The Chairman of the Committee can co-opt any other technical member of his choice to the Committee for proper evaluation of the tendered item. Any clarification/doubts regarding the specification or related matters pertaining to the items tendered may be freely got cleared through the officers included in the above committee by contacting them in the numbers shown against their names above. The contact in Police headquarters will be Senior Superintendent, H& Mod. Section, Ph. No. 0471-2722768-1265).

19. All Bidders who participates in e-tender should produce hard copies of all relevant documents related to e tender at the time of technical evaluation, without fail.

20. Note to Bidders:
   i) Bidders have to procure legally valid Digital Certificate (Class III) as per Information Technology Act, 2000 for digitally signing their electronic bids. Bidders can procure the same from any of the license certifying authority of
India. For more details, please visit the e-GP website www.etenders.kerala.gov.in.

ii) Bidders are advised to note the Tender_Id and Tender No. & Date for future reference.

iii) All uploaded documents should contain the signature and the office seal of the bidder/authorized persons and should be digitally signed while uploading. Documents uploaded without digitally signing shall entitle rejection of the tender.

iv) In the case of Foreign Equipments, the rate should be quoted in Indian Rupees. Preference will be given to those who are ready to supply the item without opening Letter of Credit. Ordinarily, no advance payment will be made for procuring the above item. In case advance payment has to be made, a clear case has to be made out by the Tenderee. However this will be only on extraordinary circumstances.

v) For obtaining Digital Signature Certificate and help on e-tendering process, contact Kerala State IT Mission, e-Government Procurement PMU & Helpdesk, Basement floor of Pension Treasury Building, Uppalam Road, Statue, Thiruvananthapuram; Ph: 0471-2577088, 2577188; Toll free no: 18002337315; e-mail: etendershelp@kerala.gov.in; Website: www.etenders.kerala.gov.in on all government working days from 9:30 am to 5:30 pm.

vi) The State Police chief is empowered to reject any tender without assigning any reason.

vii) For any clarifications regarding the terms and conditions in this tender notice or the tender document, please contact Additional Asst. Inspector General of Police, OR Senior Superintendent H Branch, Police Headquarters, Vazhuthacaud, Thiruvananthapuram – 10 on all Government working days from 10:30 am to 5:00 pm. Ph:0471-2721547-1265 Fax: 0471-2726945

viii) **Bidders who are using Internet Banking are requested to make online payment 72 hours in advance.**

**NOTE:** **BIDDERS ARE ADVISED TO GO THROUGH THE CONDITIONS IN THE NOTICE INVITING TENDER AND THE TENDER DOCUMENT CAREFULLY AND COMPLY THEM TO AVOID OUTRIGHT REJECTION OF THEIR TENDER.**

For any litigation relating to this order, the jurisdiction will be Thiruvananthapuram City.

Sd/-

Additional Assistant Inspector General of Police

FOR STATE POLICE CHIEF, KERALA
A. Shall confirm to NIJ Standard of Ballistic Resistance of Personal Body Armour (NIJ Standard – 0101.04 updated revision ‘A’ & ‘B’) Protection against all of the following weapons:

   a. 9x19mm cartridge fired through Sub Machine Gun (such as Sten machine, MP 5, Carbine, any other variant) from a distance of 5 meters to achieve a muzzle velocity 430 ± 15 m/s and the weight of the bullet between 7.4 gm to 8.2 gm

   b. 7.62x51 mm cartridge NATO ball ammunitions fired through 7.62mm SLR/BOLT Action from a distance of 10 meters to achieve a muzzle velocity 838m/s ± 15 m/s and the weight of the bullet 9.4g to 9.6 g.

   c. 7.62x39 mm (mild steel core bullet) cartridge fired through AK series rifles from a distance of 10 meters to achieve a muzzle velocity 715 m/s ± 15 m/s and the weight of the bullet 7.45g to 8.05g.

B. Vest should have the components mentioned in para D below. Each component should be made of multi layers of same material. Each layer will be in single piece and of equal shape and size to maintain uniform thickness all over area up to edge level

C. SIZES OF SOFT ARMOUR PANEL (SAP): STANDARD AND LARGE

D. AREAS OF COMPONENTS OF SOFT ARMOUR PANEL

Coverage area of the soft armour panel as per the sizes will be as under:
<table>
<thead>
<tr>
<th>S.No</th>
<th>PANEL</th>
<th>STANDARD SIZE (Sq. Mtr)</th>
<th>LARGE SIZE (Sq. Mtr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FRONT</td>
<td>0.15</td>
<td>0.18</td>
</tr>
<tr>
<td>2</td>
<td>BACK</td>
<td>0.24</td>
<td>0.26</td>
</tr>
<tr>
<td>3</td>
<td>COLLAR (TOTAL)</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>4</td>
<td>SHOULDER(TOTAL)</td>
<td>0.04</td>
<td>0.04</td>
</tr>
<tr>
<td>5</td>
<td>GROIN</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>0.55</td>
<td>0.60</td>
</tr>
</tbody>
</table>

However, drawings of the various components of BP jacket are enclosed as appendix “A” for guidance purpose in respect of its dimensions.

(i) Negative tolerance in terms of area measurement is not permissible.

(ii) Measurements will be made with the help of scaled drawing on graph paper and using planimeter.

**E. WIEGHT OF THE JACKET**

Total weight of BP Jacket including HAPs, SAPs, trauma pads and outer carrier should not exceed and mention below:-

(i) Standard size - 6.31kg

(ii) Large size - 6.62 kg

**F. **Size of Hard Armour Panel - 305mm x 254mm

**G.** Shall consist of an outer carrier, removable Soft Armour Panels (SAP) of aramid fiber/suitable material and Hard Armour Panel (HAP) made of high performance polyethylene. The threat level of HAP shall be the same as front and rear HAP. The side HAP shall also be in conjunction with SAP as same is with rear and front HAP. The sizes of all HAP (front, rear and sides) shall be as per the drawings.
Negative tolerance in dimension of HAP is not permissible

Thickness of the HAP – 25mm (maximum) considering user comfort.

**H.BPJACKET–CONSTRUCTION:**

(i) It should be in the form of jacket to provide protection against 9mm bullet (Threat level IIIA of NIJ). It should not restrict overall vertical movement of the neck of the weaver.

(ii) It should have provision to accommodate two HAP plates in front and back as per dimensions specified in tender documents. Shall be lightweight and comfortable providing optimum mobility and speed.

(iii) Adjustable at the shoulders, waist and groin with appropriate fasteners (Velcro’s). An adjustable nylon belt of minimum 10 cm width should be provided with double locking of jacket with Velcro.

(iv) The vendor has to declare the type of materials, number of layers and their aerial density in technical bid of tender and they have to maintain the same in bulk supply.

(v) SAP should be encased in polyurethane coated materials so as to make it water proof.

(vi) **VELCRO FASTENERS** All the clothing flaps of the jackets should have high quality velcro fasteners, so that it can be worn and taken off easily/quickly. The quality and report of velcro including shears strength and peel strength should be as per Bureau of Indian Standards specifications IS: 8156-1994. The IS:8156-1994 may be available in the office of Bureau Indian Standards. Vendors will submit test reports on Velcro from any NABL accredited lab or DMSRD (MOD), Kanpur.

(vii) **POCKET WITH FLAPS** The jacket should be provided with two external pockets in outer carrier to house two magazines of 5.56mm LMG in each pocket. Two pockets should also be provided to accommodate one grenade (HE 36) in each pocket. The size of each magazine is 19 cm x 3.5 cm and size of HE 36 GRENADE IS 110 mm X 65 mm.

(viii) **BELT/KAMARBANDH** An additional belt of nylon/polyester weaving with minimum width of 10 mm should be provided around the waist to properly secure the B.P. jackets with the body of the weaver.
around waist, so that weight of jacket is distributed on waist/shoulders. Kamarbandh should be of same material as outer carrier with Velcro.

(ix) Two pouches (one each on front and rear of outer carrier) should be provided to accommodate two 305 mm x 254 mm Hard Armour Plates so that jacket protects vital organs of body.

(x) Ballistic panels (SAPs & HAPs) shall be removable from outer carrier.

(xi) outer carrier shall be machine washable.

(xii) **TRAUMA PAD FOR TRAUMA ATTENUATION**

(a) Trauma pad must be provided behind the SAPs, so that it remains to body surface to provide proper cushioning.

(b) It must cover uniformly up to edge level of the SAPs.

(c) Back face Signature (BFS) should not exceed 25 mm in plasticine block at 30± 2.9 degree centigrade temperature of plasticine.

(d) Drop test will be carried out as per NIJ standards

I MATERIALS

- The outer carrier shall be made of high tenacity, heavy duty, bullet proof and 100% vest integrity fabric PU coated Nylon.
  - The fabric weight should not be less than 95 gm/m2.
  - The fabric shall be treated for protection against water, fire (fire retardant) and ultra violet rays exposure.
  - The fabric must be suitable to wear in the Indian conditions of heat, rain and humidity.
  - The inner side (body side) shall also be of a similar fabric and shall be treated for moisture and water repellency.
  - The cloth of the carrier must be pre-shrunk before stitching.
  - BP Jackets should be UV Proof.

Note: Parallel double stitching using polyester sewing thread shall be used

J VEST FIT

- The overall of the BP jacket shall be such that there is no “ride up”
while sitting.

- The overlapping degree of front and rear panels shall be such as to provide for maximum freedom of movement.

**K COLOUR :- BLACK**

**L LABELLLING :-** The outer carrier and the two soft Armour panels must be labeled as per NIJ standards giving the following details.

- Name of the Manufacturer;
- Name of the Product:
- Date of Manufacturing:
- Date of Issue:
- Threat level:
- Size:
- Serial No:
- NIJ Standard:

Strike face of jacket should be clearly marked

**M SOFT ARMOUR PANEL (SAP)**

- SAP shall be able to withstand NIJ threat level III A in respect of the caliber & the weapon selected for trial and other parameters such as weight & velocity of the bullet in ammunition selected for trials.
  - Shall protect both front and back torsos.
  - Shall be made of Aramid/suitable material.
  - The weight of the Aramid/suitable Filament, denier and type of weave shall be so balanced as to make the SAP lightweight, soft and liable.
  - The serial density of the panels shall be such as to provide the rated ballistic and trauma protection.
  - No tears, rips, worn spots, discolorations, loose or torn stitching and set wrinkles on the SAP shall be allowed.
  - The panel shall be treated with approved and durable water
repellent.

- The SAP shall be removable from outer carrier to allow for periodic cleaning.
- The SAP shall be placed in tightly sealed, water repellant and PU coated heavy duty fabric so as to make it completely waterproof.
- The aramid fibre layers shall be stitched to a suitable pattern in case SAP is made of aramid. The design given with this specification is for illustration purpose only.

Note: Tenderers must declare number of layers and type of material (serial density of material) used for fabricating Soft Armour Panel and Hard Armour Panel as per original manufacturer of the material. Raw Material Assurance Certificate (RAMC) must be given from original manufacturer in respect of material for SAP and HAP, valid for a period of six months from the closing date of tender. The vendor has to declare number of layers used for fabricating SAP and HAP of tender samples and they have to maintain the same in bulk supplies

N. HARD ARMOUR PLATE (HAP)

- Shall be made of high performance polyethylene fibre.
- Shall provide NIJ threat level III protection against cartridge 7.62x51mm ammunition and 7.62x39mm ammunition (miled steel core bullet) from a distance of 10 meters in conjunction with Soft Armour Panel.
- Each plate should not weigh more than 1.5kg
- Shall be of minimum size 305mm x254mm to cover the vital parts of the body.
- Curvature of the HAP shall be suitable to fit the body contour
- HAP shall be shielded water repellant and PU coated heavy-duty fabric so as to make it completely water proof.

O. OTHER STIPULATIONS

JACKET STYLE : POLICE
SERVICEABILITY : 10 YEARS (HAP,SAP & trauma pad)
GUARANTEE: The Outer Carrier along with trauma padding shall be guaranteed for a period of two years against all manufacturing defects.

TEMPERATURE: -50°C to +50°C (Operating temperature)

HUMIDITY: 95% at 40°C

STORAGE: Normal room temperature

P. IMMUNITY LEVEL:

(a) Hard Armour Plates: The HAPs are to be tested in conjunction with SAPs.

- Six bullets NATO ball (9.4g to 9.6 gms) fired from 7.62mm SLR/bolt action rifle from a distance of 10 meters at zero angle of incidence.

- Six bullets (mild steel core), from 7.62mm of AK rifle from a distance of 10 meters at zero angle of incidence on separate plate.

(b) Soft Armour Panels:

- Six shots fired through 9mm Sub Machine Gun (Such as Sten Machine, MP -5, Carbine, any other variant) from a distance 5 mts. With a muzzle velocity 430±15m/s and the weight of the bullet between 7.4 gm to 8.2 gm as specified in standard.

The velocities of bullets fired through weapons are given as follows

<table>
<thead>
<tr>
<th>Armour Type</th>
<th>Test Bullet</th>
<th>Bullet weight</th>
<th>Reference Velocity m/s</th>
<th>Hits per Armour part at 0° angle of incidence</th>
<th>BFS *Depth Maximum</th>
<th>Shots per Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIIA</td>
<td>9mm FMJRN</td>
<td>7.4 gm to 8.2 gm</td>
<td>430±15</td>
<td>4+2 at 30° angle</td>
<td>25 mm</td>
<td>6</td>
</tr>
<tr>
<td>III</td>
<td>7.62 mm NATO FMJ</td>
<td>9.4 to 9.6 g</td>
<td>838±15</td>
<td>6</td>
<td>25 mm</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>7.62 mm Mild Steel Core</td>
<td>7.45 g to 8.05 g</td>
<td>715±15</td>
<td>6</td>
<td>25 mm</td>
<td>6</td>
</tr>
</tbody>
</table>
• BFS –Back Face Signature on Plasticine.
• Selected weapon and lot of ammunition, for which reference velocity has been once achieved, will remain the same throughout ballistic testing of all tender samples of various firms.

All tests will be in accordance with the SOP. Any changes in the SOP will be decided by Technical Evaluation Committee.

Q TESTING CRITERIA

(i) Scientific inspections /ballistic trial of these BP Jackets will be conducted as NIJ standard 0101-04 incorporating revision ‘A’ & ‘B’ for BP Jackets

(ii) Groin Pad will be tested ballistically with 9mm SMC. Three evenly spaced fair hits at zero degree angle incidences shall be taken and BFS should not exceed 25 mm.

Above these :-

• The supplier should have well-equipped office/workshop for maintenance.
• Supplier should have direct authorization from the Original Equipment Manufacturer (OEM) to participate in the tender. Necessary authorization documents should be made available in this regard.
• The name of the OEM along with the contact telephone numbers, addresses, fax numbers & e-mail address may be available for confirmations with the OEM about the status of the supplier.
• Minimum five years warranty for the equipment.
• AMC proposal for a period of 5 years after the warranty period, should be enclosed with the tender proposal
• AMC should be expressed as percentage of total product value (TPV) separately for each year of AMC
• Tender will be valuated based on the net liability to department which includes the product cost and AMC cost.