

## NOTE

The items concerned being technology intensive equipments. It is likely that different OEMs may have products with specifications which are not uniform. In this context it is informed that the specifications mentioned are indicative of core requirements and that during evaluation and selection of the product, weightage will be given to performance and capability of the product under required conditions. However materially substantial variations in specifications are likely to lead to disqualifications.

### Tender No. 61/2011

#### Poly Carbonate Riot Shield

Material should be	-	Transparent, Optical Grade polycarbonate.
Shape should be	-	Rectangular
Length should be	-	1000 ( $\pm$ 20) mm.
Breadth (Flat) should be	-	500 ( $\pm$ 10) mm.
Breadth (Concave) should be	-	530 (should be $\pm$ 20) mm.
Thickness should be	-	3 to 4 mm.
Weight should be	-	Maximum of 3 Kgs (light weight will be preferred)

- The shield should have nylon shoulder belt with good quality shoulder strap of about 150 cm long and 3 cm width.
- Shield should have strong durable handle with centre soft rubber padding of width 25 cm and adjustable Velcro belt.
- "POLICE" should be written in fluorescent Red Colour ink around the middle portion on the Polycarbonate shield with standard dimensions.
- The shield should provide excellent protection against stone pelting and petrol bombs etc.
- The material should be maximum scratch proof.
- It should have 3 years warranty
- It should have efficient sales service.

## **Tender No. 62/2011**

### **Poly Carbonate Lathy**

1. It should be unbreakable – should withstand when hit on a firm object/surface
2. It should have Core Material of Fiber reinforced polycarbonate
3. It should have Outer Material of Rubber
4. It should be Light weight – Less than 400 Grams
5. It should be an effective deterrent.
6. It should not cause severe injuries/fractures
7. It should have long shelf life.
8. Both ends should be covered by rubber end caps fixed firmly
9. It should have Thong hole with thong (Nylon fine quality cotton or synthetic)
10. The material should be maximum scratch proof and darkish in colour
11. It should have Suitable Hand grip
12. Should not have any sharp/rough surface which may cause injury.
13. It should have three year warranty
14. Its dimensions should be
  - Length - 1 m ( $\pm 2$ mm)
  - Diameter - 25mm ( $\pm 3$  mm)
  - Wall thickness - 4mm ( $\pm 0.1$ mm)

## Tender No. 63/2011

### Body Protector

1. It should consist of chest protector, shin guard, forearm protector and knee pads.
2. Made up of light weight, high quality cloth with camouflage print (OG colour) having quality side straps (velero type) and buckles.
3. Physical protection against brick batting, stone pelting, cane/knife attacks and projectiles encountered in RIOT situation and other policing functions.
4. Having Elbow and shine Guards ergonomically formed to protect limbs during Riot/Mob situation.
5. Having high level of impact attenuation about 80%.
6. Having Ergonomic design for maximum wearing comfort.
7. Having design that ensures restrain free movement.
8. Fire retardant and water resistant.
9. Having long shelf life. Light weight with excellent protection capability
10. Nylon gear bag for storage.

#### 11. Chest Protector:-

Front side length - 90 cm

Back side length - 75 cm

Weight - 3 kg (+/- 500 gm) (light weight will be preferred)

- Polycarbonate sheet and trauma pads should be inserted in front and back pouches. It should protect the entire portion of chest and back side.

Poly carbonate sheet - 5mm thickness

} Size : 35cm X 28 cm or better (+5cm)

Trauma pad - 9mm thickness

- Polycarbonate sheet should have thermoformed grooves border all around to give extra strength and should be "C" shape to meet the body contour.
- The Anti-Riot Chest Protector should be designed to protect the torso and shoulders and back side of the neck from blunt force trauma.
- Collar with cellular pad should be sufficient in size to protect back side of the neck.
- The cellular pad design shall provide ample protection without hindering mobility during tactical and riot situation or cell extraction.
- The torso protection shall consist of durable foam.
- It should safely absorb blows delivered from blunt objects.
- The shoulder pads shall feature hard-shell plastic plates and durable foam padding.
- Adjustable shoulder, waist straps and contoured design to give a secure fit.

- Adjustable Velcro closures with hook and loop fasteners and buckles.
- It shall be comfortable enough for long-term wear.
- The letters POLICE should be affixed in front and back with fluorescent/reflective colour.

12. **Shin Guard** :-

- The Hard polycarbonate shell shin protector with interior leg brace support shall safely withstand a substantial blow to the leg from non-ballistic weapons or flying debris.
- The unit shall fasten with three Velcro Spandex Closures on the back of the leg for complete secure fit.
- Total length excluding foot guard shall be 10" to 11" shine portion and 14.5" to 16.5" total length (25cm – 36.25cm)

13. **Forearm Protector** :-

- The forearm protectors shall be designed for use to shield the entire forearm from the wrist to the elbow.
- Construction shall be of durable form covered by a hard-shell plastic plate encased in fire-retardant nylon rigging.
- It provides ample protection without hindering mobility during tactical or riot situations.
- It shall safely absorb blows delivered from blunt objects and stone pelting
- Adjustable Velcro straps
- Light weight and one size fit all.

14. **Kneepads**:-

- Kneepads shall be made of ½ inch or high-density foam covered by durable nylon
- A rubber non-slip cap surface to provide additional protection and ensure long lasting wear.
- Dual Velcro Fasteners to allow comfortable and secure fit for all sizes and one size shall fit all.  
It should have three years warranty.

## **Tender No. 64/2011**

### **Mannequin-First Aid & Trauma Care training for Police Personnel**

The purpose of the Mannequin is to train Police Personnel in first-aid and basic life support in case of Accidents and Disasters. The mannequins are required for:

1. Training of basic life support and first aid.
2. Must be durable, rugged and life-like.
3. It must have a CPR module. Should have detachable and reusable mouth pieces.  
Disposable airways must be economical.
4. Should have correct head tilt/chin lift.
5. Must have manually generated carotid pulse.
6. Realistic articulation for application of cervical collars and splints/traction for application to spine must be available.
7. Must be rugged for indoor and outdoor scenario use.
8. Must be possible to enhance trauma scenarios with the addition of enclosed trauma modules.
9. Strong and durable Carry case should be provided for storage and transport is essential.

## **Tender No. 65/2011**

### **Tent**

#### **Tent 360 LBS (Double Fly General Service Tent)**

Dimension	: 20ft X 16ft
Material	: Water Proof Canvas Khaki IS: 6803
Side wall height	: 5.5 ft
Centre Height	: 10.5 ft
Fabric	: Made from 2 folds of cloth of canvas water proof khaki as per IS:6803 with lining of dark blue sheeting for outer fly and hoods buff sheeting for the inner fly walls and purdhas.
Poles	: Tainted Bamboo poles with metal caps
Accessories	: Light weight metal pegs, mallets, pins and hammers packed in salita water proof with tying ropes cotton.
Ground Sheet	: HDPE 150 gsm/Canvas 450 gsm

#### **Tent 180 LBS (Double Fly General Service Tent)**

Dimension	: 14ft X 14ft
Material	: Water Proof Canvas Khaki IS: 6803
Side wall height	: 2 ft
Centre Height	: 7 ft
Fabric	: Made from 2 folds of cloth of canvas water proof khaki as per IS:6803 with lining of dark blue sheeting for outer fly and hoods buff sheeting for the inner fly walls and purdhas.
Poles	: Tainted Bamboo poles with metal caps
Accessories	: Light weight metal pegs, mallets, pins and hammers packed in salita water proof with tying ropes cotton.
Ground Sheet	: HDPE 150 gsm/Canvas 450 gsm

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**SECURITY CAMERAS IN JUNCTIONS**

**TECHNICAL SPECIFICATIONS FOR SURVEILLANCE SECURITY USING SPEED DOME CAMERAS (CCTV SYSTEM)**

**a. Introduction:**

1. Surveillance SECURITY CAMERA CCTV system is required to ensure effective surveillance of an area as well as create a tamperproof record for post event analysis. The System shall provide an online display of video images on TFT monitors/Video Wall/Large plasma monitors located in Central as well as Local control Rooms at suitable/desired locations.
2. System should facilitate viewing of live and recorded images and controlling of all cameras by the authorized users present in the LAN.
3. System should provide inter-operability of hardware, OS, software, networking, printing, database connectivity, reporting, and communication protocols. System expansion should be possible through off-the-shelf available hardware.
4. Equipment with better specifications shall be accepted.
5. Installation commissioning of Security Camera is not just limited to installation and commissioning of security Camera but also includes comprehensive on site support, vendor management, maintenances of each and every equipment, software, allied items deployed under the project till the expiry of the warranty period.

**b. General Specifications**

1. Proposed Security Camera CCTV system shall be an open standard based integrated system aimed at providing high-speed manual/automatic operation for best performance.
2. System shall use video signals from various types of indoor/outdoor CCD Colour cameras installed at different locations, process them for viewing on workstations/monitors at Central Control Room/local control rooms and simultaneously record all the cameras without compression for clarity. Joystick or Mouse-Keyboard controllers shall be used for Pan, Tilt, Zoom, and other functions of desired cameras.
3. System shall have combination of Digital CCD Colour video Cameras, analog CCD Colour Video Cameras with Fixed or P/T/Z Lens, encoders /decoders, Network Video recorders (NVR/CAMERA SERVER), Network attached storage (NAS) / Raid backup device for recording, Application software, Colour Video Monitors, Keyboards with Joystick controllers / Mouse-Keyboard, software based Video Matrix Switcher, workstation for System Administration / Management / Maintenance etc.
4. The NVR / CAMERA SERVER can be embedded type or server based. However the NVR / CAMERA SERVER software shall run on common off the shelf available servers (Camera server & Database server). Each NVR / Camera Server shall be able to handle 36 or more cameras.
5. Network Video Recorder shall offer both video stream management and video stream storage management. Recording frame rate & resolution in respect of individual channel shall be programmable.
6. System should ensure that once recorded, the video can not be altered; ensuring the audit trail is intact for evidential purposes.
7. System shall provide sufficient storage of all the camera recordings for a period of 30 days

- or more @ 25 FPS, at 4 CIF or better quality without compression for all cameras (extended capacity of cameras i.e. present capacity + 25 %).
8. System shall use analog CCD cameras with external encoder. The video shall be compressed using MPEG-4 or better standard and streamed over the dedicated OFC media.
  9. Encoders shall digitize analog video, compress the digital video using various compression algorithms (MPEG - 4 or better standard), and transmit the compressed digital video over the dedicated OFC transmission media. Encoders shall have less than 200 ms of latency and shall support dual stream - MPEG 4
  10. The recording resolution and frame rate for each camera shall be user programmable.
  11. The Area under surveillance shall be monitored and controlled from Central/Local Control Room(s) through workstations and Joystick controllers.
  12. Surveillance SECURITY CAMERA CCTV System shall operate on 230 V, 50 Hz single -phase power supply. Power for all the equipment will be conditioned using on-line UPS with minimum 30 minutes or more back up. If any equipment operates on any voltage other than the supply voltage and supply frequency, necessary conversion/correction device for supply shall be supplied along with the equipment.
  13. All the control equipments e.g. servers, NVR/CAMERA SERVER, NAS/Raid backup device, decoders etc. shall be provided in standard Racks.
  14. All the indoor cameras & control equipment shall be suitable for operation from 10 C to 40 C and relative humidity up to 80 % non-condensing. Cameras & other equipment, 0 meant for outdoor installations, shall be suitable to work from (-) 10 C to (+) 50 C with 0 RH up to 90% non-condensing. This temperature range may be achieved with or without heater

c. System requirements:

1. Camera with external encoder shall be used for image capture.
2. All outdoor Cameras shall be Day/Night cameras.
3. Housing of cameras meant for outdoor camera housing shall be of IP 66 or better rating. These must be integrated by the camera manufacturer.
4. System must provide built-in facility of watermarking or Digital certificate to ensure tamperproof recording so that these can be used as evidence at a later date, if so desired. The recording shall support audit trail feature.
5. All camera recordings shall have Camera IO & location/area of recording as well as date/time stamp. Camera IO, Location/Area of recording & date/time shall be programmable by the system administrator with User IO & Password.
6. Facility of camera recording in real time mode (25 FPS)/15/12.5/10 or lower FPS as well as in any desired combination must be available in the system.
7. Facility of Camera recording in CIF, 2CIF, 4 CIF as well as in any combination i.e. any camera can be recorded in any quality - Selective or Group of cameras must be available in the system.
8. System to have facility of additional camera installation beyond the originally planned capacity.
9. While recording, video shall be un-compressed for better clarity streamed over the dedicated OFC to be laid down by the vendor. Once on the network, video can be viewed on a Control room workstation or on analog monitor using a hardware decoder (MPEG-4/compatible standard Receiver) and shall be recorded on NVR/CAMERA SERVER and shall be backed up on NAS/RAID Backup device.
10. System shall be triplex i.e. it should provide facility of Viewing, Recording & Replay simultaneously.
11. The offered system shall have facility to export the desired portion of clipping (from a desired date/time to another desired date/time) on CD or DVD. Viewing of this recording

- shall be possible on standard PC using standard software like windows media player etc.
12. PTZ Cameras shall have 64 or more pre-defined positions, to be selected through suitable input alarm.
  13. Redundancy/Fail-over feature is required i.e. in case of failure of an NVR/CAMERA SERVER the relevant cameras shall automatically switch over to the redundant NVR/CAMERA SERVER.
  14. System shall have provision of WAN connectivity for remote monitoring.

#### d. System design

1. Each camera should be connected to a Video to OFC data converter, through cable, which shall support minimum dual streams.
2. Central/Local Control Room will have workstations along with controllers for Camera operation. For monitoring purposes, Video monitors/Plasma monitors/Video wall shall be setup with suitable mounting arrangements, as per user requirements. Facility for viewing and controlling all the cameras at various other locations, as required, shall be provided.
3. Monitoring at Local control rooms may be restricted to operation of certain cameras only & system administrator should be able to configure the system, accordingly. More than one Local Control rooms may be required in the proposed system with individual configuration.
4. Each control room may have one or more Operators simultaneously using the installed Video monitors/Video wall. Operator control on cameras shall be on a static basis or rotary basis depending on the policies to be decided at site.
5. There shall be a Control System with Video Control Software to manage all the video surveillance devices.
6. Database Server shall keep track of all configurations & events. This will help in proper System administration & management of redundancies etc.
7. Video stream from individual cameras shall be recorded on respective NVR/Camera Server &, subsequently, archived to NAS box/RAID backup device. System shall have provision to automatically over-write the new information after the period of 30/31 days & necessary script/algorithm must be available in the Application.
8. All the workstations in LAN should be provided with software to view and control the cameras, encoders and retrieve the recorded video images from the NVR/CAMERA SERVER/NAS/Raid backup device seamlessly.

#### e. Video Surveillance Application Software

1. The software shall operate on open architecture for integration with perimeter safety, access control, PA and fire / safety systems based on open standards.
2. Digital video surveillance control software should be capable to display and manage the entire surveillance system. It should be capable of supporting variety of devices such as cameras, video encoders, video decoders, PTZ controller, NVR, NAS boxes/Raid backup device etc.
3. The software should have inbuilt facility to store configuration of encoders / decoders and cameras.
4. The software should Support flexible 1/2/4 Windows Split screen display mode or scroll mode on the PC monitor or on preview monitor as per site requirement.
5. The software should be able to control all cameras i.e. PTZ control, Iris control, auto / manual focus, and color balance of camera, Selection of presets, Video tour selection etc.
6. There must be a single encoder for each camera
7. The software is required to generate reports of stored device configuration. The control software is required to provide alarm and alarm log. The log shall be able to be achieved, printed and displayed using a device filter, a device group filter and/or a time window.

8. The software should have user access authority configurable on per device or per device group basis. The user shall have the facility to request the access of any camera and can control the camera for a reservation period. Control of camera is released after the reservation period.
9. The system shall provide User activity log (audit trail) with user ID, time stamp, and action performed, etc.
10. The administrator should be able to add, edit & delete users with rights. It shall be possible to view ability / rights of each user or the cameras which can be viewed & controlled as per the permission assigned by the administrator.
11. The users should be on a hierarchical basis as assigned by the administrator. The higher priority person can take control of cameras, which are already being controlled by a lower priority user. There should be minimum 3 hierarchical levels of security for providing user level log in.
12. It should have recording modes viz. continuous, manual, or programmed modes on date, time and camera -wise. All modes should be disabled and enabled using scheduled configuration. It should also be possible to search and replay the recorded images on date, time and camera-wise. It should provide onscreen controls for remote operation of PTZ cameras. It should have the facility for scheduled recording. Different recording speeds (fps) and resolution for each recording mode for each camera should be possible.
13. It should provide programmable motion detection and recording, to be defined area wise. System must be able to support video motion detection algorithms to detect and track objects, learn the scene, Adapt to a changing outdoor environment, Ignore environmental changes including rain, hail, wind, swaying trees and gradual light changes.
14. The settings shall be individually configurable for each alarm and each camera prerecord duration. This shall allow the Camera Server to capture video prior to the alarm/event, as well as after the alarm/event. Shall be selectable from a list of values ranging between 0 seconds and 5 minutes.
15. The software for clients should also be working on a browser based system for remote users. This will allow any authorized user to display the video of any desired camera on the monitor with full PTZ and associated controls.
16. Retrieval: The cctv application should allow retrieval of data instantaneously or any date / time interval chosen through search functionality of the application software. In case data is older than 30 days and available, the retrieval should be possible. The system should also allow for backup of specific data on any drives like CD/DVD/Blu ray Recorders or any other device in a format which can be replayed through a standard PC based software. Log of any such activity should be maintained by the system which can be audited at a later date.
17. Backup: Online backup should be maintained to protect against storage failure.
18. Storage: Data storage should be at a central location in the airport. The capacity of the storage should be equal to 30 days of recording of all cameras at 25 fps/4 OF. The system should follow AFO on recording.
19. Artificial Intelligence: It shall have image tracking facility. If any object is found to be stationary for a pre-defined period the system shall track the event and alert the operator. This facility shall be provided on select cameras at entry point, check-in counters, X-Ray BIS points, SHA and as defined by the tenderer. The system must have the features for identifying tail-gating, vehicle detection features, unattended baggage identification, queuing analysis, external text insertion feature and intruder detection.

## **Tender No. 67/2011**

### **WATER BATH**

Temperature range: 30 – 100 degrees

Capacity: 6 litre

External dimension: 36 x 28 x 32 cm (Approx)

Internal dimension: 32 x 17 x 18 Cms (Minimum)

Internal material: Stainless Steel

External Material: Stainless Steel Epoxy coated

Lid: Stainless Steel

Thermometer: 20 – 110 degrees

Tube racks for PP tubes

Warranty: 3 Years

## **Tender No. 68/2011**

### **SHAKING WATER BATH**

Temperature range: 20 – 99 degrees

Filling volume: 8 to 20 litres

Shaking frequency: 20 to 200

Shaking Stroke: 15 mm

Bath Size: 50 x 30 cms

Display resolution for temperature: 0.1 degrees

Display resolution for shaking: 1 rpm

Electronic timer

Key pad for adjustment of set point temperature, frequency and time

Audible signal for warning and cut off functions

Removable shaking carriage

Internal material: Stainless Steel

External Material: Stainless Steel Epoxy coated

Lid: Plexi glass/Stainless Steel

Warranty: 3 Years

**Tender No. 69/2011**

**DIGITAL REPROVIT UNIT**

1/3" CCD camera on stand

Base lights and cathode lamps

Built in storage of minimum 200 frames in the camera

External storage of 8 GB capacity (minimum)

Facility for three dimensional and two dimensional photography

Warranty: 3 Years

**Tender No. 70/2011**

**UV CHAMBER WITH EYE PROTECTION**

UV cabinet of dimension 75(L) x 60 (W) x 25(H) cm

Mild Steel, Powder Coated

View piece: aluminium casting with eye protection

Light source: Short wave: 254 nm

Long wave: 365 nm

Visible light

Individual toggle switch for each light

The cabinet should be openable at three sides

UV protecting goggles

Glass filter to protect the eyes against UV light

Warranty: 3 Years

## Tender No. 71/2011

### Digital Camera

1	Resolution	Min. 8 Mega Pixel
2	Optical Zoom	Min. 8X
3	LCD Panel	Not less than 6 CM
4	Internal memory	Min 32 MB
5	Flash unit	Built-in
6	Expansion Slot	SD Card / SDHC
7	Should be capable to capture both Audio and Video	
8	Scene Modes	Min. 20
9	Power Source	Li-ion Rechargeable Battery / Ni-MH Rechargeable Battery – 1 number with one hour
10	Accessories to be supplied	8 GB SD Card, Branded re-chargeable battery, Branded re-chargeable battery charger, branded Compact and sturdy carry case, Spare battery.
11	Warranty	3 years
12	Best after sale service should be provided in Districts	

Slight variations from the quantifiable data as mentioned above can be considered and recommended if the item, overall, is fit for use in the Police Department.

## **Tender No. 72/2011**

### **Digital Voice Recorders**

1. Should be Branded equipment
2. Compact size (Handy, easy to carry even in a pocket)
3. Adopting Flash Memory.
4. Recording Mode.
5. Long time Recording (Not less than 10 Hours).
6. Automated Power Break.
7. VOS (Voice Operated Recording System) preferable.
8. Search, Play back, Telephone recording facility.
9. Hearing aid.
10. Connectivity facility to computer and down loading files/ folder from DVR to computer.
11. Portable External Storage Device (Preferable).
12. Best after sales service. Availability of Servicing Centre in the State.
13. Warranty minimum 3 years

## **Tender No. 73/2011**

### **Binocular 50mmX7x (Marine)**

- ❖ Maintain Optimum viewing quality regardless of weather conditions
- ❖ Water proof Binoculars – Weather proof not sufficient
- ❖ Auto focus features – Preferable
- ❖ Built in compass – Preferable as accessory
- ❖ 50mm objective lenses – Minimum needed
- ❖ Image stabilization (IS) - preferable

**Tender No. 74/2011**

**Integrated Cell phone and PDA Data Extractor and Analyser**  
**Forensic PDA Extractor**

Includes PDA Imager and PDA Analyzer

**PDA Imager**

1. Uses MD5 hash for authentication
2. Support physical and logical acquisition
3. Logical acquisition includes files, database and registry
4. Creates a single evidence file with proprietary format
5. Comprehensive HTML reporting

**PDA Analyzer**

1. Standard Windows Application
2. All feature of Forensic Analysis software
3. Creates Log of each analysis session and analyzing officer's details
4. Supports the analysis of WincE/Pocket PC/Windows mobile and Palm OS PDA images
5. Unicode support
6. Gallery view of images
7. Timeline analysis of files
8. Multiple key work and GREP search
9. File search base on extension
10. Registry viewer
11. Book marking on selected data, files and folders
12. Well defined report generation.

## Tender No. 75/2011

### NAVIGATOR WITH GPS

- The device should be capable of providing navigation.
- This should enable easy handling of the map data
- Features like high resolution maps, turn-by-turn navigation and voice direction should be available.
- It should be made of suitable Hardware
- GPS : Min 20-channel
- RAM 64 MB or higher
- Storage capacity Min 2GB
- Memory Slot SD/MMC (Compatible)
- Display Type 4.3" TFT with touch screen
- Display Resolution 480 x 272 pixels (WQVGA) or better
- Display Orientation Landscape
- Battery Capacity 720mAH
- USB: Yes
- Speaker : Yes
- Depth 17.7mm (Apprx.)
- Width 130mm (Apprx.)
- Height 77.7 mm (Apprx.)
- Weight : Not more than 300 g
- With suitable and better Operating System
- With navigation Software and Maps Video Player, Audio Player, Picture Viewer etc should be available

**Tender No. 76/2011**

**Portable Digital Voice Recorder with Camera (like mobile phone)**

Should be a mobile phone instrument with continuous voice recording facility
Minimum 4 GB storage capacity with memory card
Minimum 100 MB internal memory
Camera to have digital zoom of minimum 3x
Should have video recording facility
Should have blooth tooth, USB port, WAP browser, Geo tagging and FM Radio
Minimum tree years warranty

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