

**Government of India  
Bhabha Atomic Research Centre  
Technical Physics Division  
Mumbai-400 085**

Purnima Labs  
Date: 07/09/2018

**Due Date: 24/09/2018**

**Ref: TPD/NXPS/MF/TP/146**

**Sub: Fabrication, supply and installation of CCTV surveillance system**

Dear Sir,

1. Quotations are invited for fabrication, supply and installation of CCTV surveillance system as per specifications attached herewith.
2. Bidder shall quote for fabrication, supply and installation of these components with material. Taxes shall be quoted separately.
3. The quotation must reach, Head, Technical Physics Division on or before the due date and must be sent in a sealed envelope super scribed with the above reference number and due date given above through **register post/speed post of Indian Postal Services only**.
4. The address on the envelope should read:

The Head, Technical Physics Division  
Bhabha Atomic Research Centre  
Purnima Labs., Trombay, Mumbai 400085.  
**Attn: Mr. Tarun Patel**

5. The bidder shall have to take an insurance policy against any material issued to him by the purchaser as free issue material.
6. The fabrication work shall be subject to inspection by our representative. The finished components shall not be dispatched prior to approval by our representative at the bidder's works. Necessary inspection facilities should be provided to our engineers during fabrication at bidder's premises.
7. The bidder shall deliver and install the finished components after approval by our representative, within stipulated delivery time from the date of the firm purchase order issued to the bidder. The finished components and the scrap from the free issue material shall be delivered by the bidder at Purnima Laboratory, Technical Physics Division, B.A.R.C., Trombay, Mumbai 400085.
8. Head, Technical Physics Division, BARC, reserves the right to accept/reject any or all quotations without assigning any reason.
9. Detailed drawing if required will be made available after issue of order.
10. Bidder must provide PAN, GST number in the quotation.

(Tarun Patel)  
Scientific Officer /F  
Technical Physics Division  
For and on behalf of President of India

## **Specifications of CCTV surveillance system**

### **1. Network speed dome camera with wall mount stand - 6 Nos.**

Image sensor	1/2.8" progressive scan CMOS
Illumination	Color: 0.005 Lux @(F1.6, AGC ON),,B/W: 0.001Lux @(F1.6, AGC ON),0 Lux with IR
Gain control	Auto/Manual
Shutter Time	1/1 s to 1/30,000 s
Day & Night	IR Cut Filter
Digital Zoom	16X
Focus Mode	Auto/Semi-automatic/Manual
Focal Length	4.8 mm to 120 mm, 25X optical zoom
Field of View	Horizontal field of view: 57.6° to 2.5° (Wide-Tele) Vertical field of view: 34.4° to 1.4° (Wide-Tele)
Working Distance	10 mm to 1500 mm (wide-tele)
Aperture Range	F1.6 to F3.5
IR support	100 meter smart IR support
Movement Range (Pan)	360° endless
Pan Speed	Configurable, from 0.1°/s to 80°/s, Preset speed: 80°/s
Movement Range (Tilt)	From -15° to 90° (auto-flip)
Tilt Speed	Configurable, from 0.1°/s to 80°/s Preset Speed: 80°/s
Patrol Scan	8 patrols, up to 32 presets for each patrol
Pattern Scan	4 pattern scans, record time over 10 minutes for each scan
Power-off Memory	Support
Park Action	Preset/Pattern Scan/Patrol Scan/Auto Scan/Tilt Scan/Random Scan/Frame Scan/Panorama Scan
PTZ Position Display	Support
Scheduled Task	Preset/Pattern Scan/Patrol Scan/Auto Scan/Tilt Scan/Random Scan/Frame Scan/Panorama Scan/Dome Reboot/Dome Adjust/Aux Output
Video Compression	H.265+/H.265/H.264+/H.264/MJPEG
Video Bitrate	32 Kbps to 16384 Kbps
Basic Event	Motion Detection, Video Tampering Detection, Exception
Smart Event	Intrusion Detection, Line Crossing Detection, Region Entrance Detection, Region Exiting Detection, Object Removal Detection, Unattended Baggage Detection
Smart Record	ANR (Automatic Network Replenishment), Dual-VCA
ROI	Main stream, sub-stream, and third stream respectively support four fixed areas
Resolution	VGA to FHD
Main Stream	25fps (1920 × 1080, 1280 × 960, 1280 × 720), 50fps (1280 × 960, 1280 × 720)
Image Enhancement	HLC/BLC/3D DNR/Defog/EIS/Regional Exposure/Regional Focus
Network Storage	Built-in memory card slot, support Micro SD/SDHC/SDXC, up to 256 GB; NAS (NPS, SMB/ CIPS), ANR
Protocols	IPv4/IPv6, HTTP, HTTPS, 802.1x, SNMP, DNS, TCP/IP, UDP, DHCP, PPPoE
API	Open-ended, support ONVIF, ISAPI, and CGI and Third-Party Management Platform
Security Measures	User authentication (ID and PW), Host authentication (MAC address); HTTPS encryption; IEEE 802.1x port-based network access control; IP address filtering
Web Browser	IE 8 to 11, Chrome 31.0 to 44, Firefox 30.0 to 51
Network Interface	1 RJ45 10 M/100 M Ethernet, PoE+ (802.3 at, class4)
Power	PoE and 12 VDC
Working Environment	Temp: 20- 40 degree C and Humidity 40-90%
Protection Level	IP66 Standard, TVS 4000V Lightning Protection, Surge Protection and Voltage Transient Protection
Mounting stand	White color powder coated metal stand
Dimensions	≤ Φ 170 mm × 300 mm without stand

## 2. Network keyboard with LCD display - 1 No.

Compatibility	Network keyboard should be compatible with 6 nos. of network speed dome
Network interface	RJ45 10M/100M/1000M self-adaptive Ethernet interface
Serial interface	RS-232, Rs-485 and USB interface
Display type	7" TFT or LCD for 1-ch camera
Display Resolution:	800 × 480
Power supply	12 VDC, compatible power adapter should be supplied
Working Environment	Temp: 20- 40 degree C and Humidity 40-90%
Dimensions	≤ (W × D × H) 150 × 200 × 450 mm

## 3. 8 channel NVR – 1 No.

IP video input	8-ch
Incoming bandwidth	80 Mbps
Outgoing bandwidth	160Mbps
Display output type	HDMI- 1 No., VGA -1 No.
Display resolution	3840 × 2160, 2560× 1440, 1920 × 1080, 1600 × 1200, 1280 × 1024, 1280 × 720, 1024 × 768
Decoding format	H.265/H.265+/H.264+/H.264/MPEG4
Recording resolution	8MP/6MP/5MP/4MP/3MP/1080p/UXGA/720p/VGA/4CIF/DCIF /2CIF/CIF/QCIF
Synchronous playback	8-ch
Capability	2-ch @ 4K, or 8-ch @ 1080p
Network protocols	TCP/IP, DHCP, HIK Cloud P2P, DNS, DDNS, NTP, SADP, SMTP, NFS, iSCSI, UPnP™, HTTPS
Hard disk	4 SATA interfaces support
Capacity	Up to 4TB capacity for each HDD
Network interface	2 RJ-45 10/100/1000 Mbps self-adaptive Ethernet interfaces
Serial interface	1 RS-485 (half-duplex), 1 RS-232, 1 keyboard (optional)
USB interface	Front panel: 2 × USB 2.0; Rear panel: 1 × USB 3.0
Power supply	100 to 240 VAC
Working Environment	Temp: 20- 40 degree C and Humidity 40-90%
Chassis	19-inch rack-mounted 1.5U chassis

## 4. PoE Switch -2 No.

PoE RJ45 ports	8
PoE power	150 - 200 W
100M/1G fiber ports	2
Compatibility	It should be compatible with network camera and NVR.
Dimensions	≤ (W x D x H) 350 x 200 x 50 mm

## 5. Ethernet CAT5 cable– 150 meter

### Note:

1. Computer software for remote viewing of all CCTV cameras should be provided.
2. Installation should be carried out by supplier at Purnima building, BARC, Trombay, Mumbai-85.
3. As installation will be carried out in radiation area at BARC, supplier should have valid PVC for making entry pass.
4. Warranty: Minimum 1 year from the date of delivery.
5. Pre-dispatch inspection of materials will be carried out at supplier's site.

## **General Specifications**

### 1.0. Quality surveillance, inspection and inspection report:

1.1. All work covered by the specification shall be subject to quality surveillance by the purchaser or his authorized representative for which purpose the fabricator shall allow access at all reasonable times during manufacture to:

1.1.1 the premises in which the work is being carried out;

1.1.2 the drawings and/or tooling involved

1.1.3 gauges, inspection instruments etc. required for inspecting the work.

1.2. Inspection and tests shall be carried out by the fabricator as per the requirements detailed in the drawings and these specifications.

1.3. The fabricator shall submit three copies of inspection reports to the purchaser for approval if requires.

1.4. Components found unsatisfactory as to workmanship or material shall be removed by fabricator and replaced by components which are satisfactory.

1.5. Fabricator shall use materials as specified by the purchaser and submit to the purchaser, the material test certificate for approval.

1.6. The finished components shall not be dispatched prior to approval by our engineer at bidder's works.

### 2.0. Delivery

2.1 The bidder shall deliver the finished components after approval by our engineer within the delivery period mentioned in the firm purchase order issued to the bidder.

### 3.0 Sub contract

The fabricator shall not sub-contract any or all the work without written consent from the purchaser. The fabricator shall be responsible to the purchaser for all work of the subcontractor of the fabricator, if allowed by the purchaser.

### 4.0 Tax

4.1 Except GST no other taxes are payable.

4.2 Income tax @ 2% will be deducted from the bill.

5.0 Delivery: All materials should be delivered to **Purnima building, BARC, Trombay, Mumbai -400 085.**