Supply and Installation of Closed-Circuit Television (CCTV) in the Radiation Enclosures of LPSC-V

Introduction

LPSC operates 4 radiation enclosures in its Valiamala campus. Regulatory requirements put forth by the Govt. of India for the safe use of radiation mandate the use of CCTV in radiation enclosures. Two of the radiation enclosures are housed in one location in a single lab and the other two enclosures are housed at two other labs all geographically separated but within the campus. **Each lab shall have One NVR and One 4U Rack Wall Mount. Each Radiation Enclosure shall have Two Fixed indoor cameras and One Display installed just outside the blast door. Connection between labs is not necessary.**

Total Scope of Supply:

  a. **Fixed Indoor Camera: 8 nos**
  b. **Network Video Recorder: 3 nos**
  c. **4U Rack Wall Mount: 3 nos**
  d. **27" Display with HDMI Cable: 4 nos**

Supplier shall wall mount all the components of the CCTV system using suitable fixtures. The supplier shall quote all inclusive of fixtures, cables (network and power), any other necessary item not covered in the specification and installation charges.

Pre-Bid site visit

A Pre-Bid site visit can be planned by the bidder for better understanding of the requirement and ensuring full compliance to the specification before submitting their bid. Interested bidders are requested to submit their willingness to attend pre-bid visit along with details of person attending the meeting by email to Purchase & Stores Officer, email id: pso_1@lpsc.gov.in, Tel: 0471-256____. The intimation shall be sent atleast 2 days before the visit.

CCTVDetailed Specification

1. Fixed camera - Indoor (8 nos)

1.	Type	:	IP Fixed Dome Camera for indoor environment with inbuilt IR Illuminator and wall mounting bracket.
2.	Resolution	:	1920x1080 (2MP) or higher
3.	Sensor	:	1/2.8" Progressive CMOS or better
4.	Focal length	:	f = 2.8 ~ 12 mm, Motorized, Vari-focal, Remote Focus or better
5.	IR Illuminator	:	Built-in IR illuminators, effective up to 50 meters or better
6.	Frame rate	:	30 fps @ 1920x1080 or better
7.	Shutter Speed	:	1 sec. to 1/25,000 sec. or better
8.	Minimum illumination	:	0.03 lux (Color)or better, 0.01 lux (B/W) or better, 0 lux with IR illumination on
9.	Network Interface	:	10 Base-T/100 Base-TX Ethernet (RJ-45) self-adaptive Ethernet port.
10.	Web interface	:	Camera should have web interface to configure and control
11.	Camera Adjustment	:	Pan Range ±160° or higher, Tilt Range 70°or higher Rotation Range ±160°or higher, Pan/Tilt/Zoom Functionalities: ePTZ: 48x digital zoom or higher
12.	Video Compression	:	H.265/H.264, MJPEG
13.	Video streaming	:	Minimum 2 stream including 1 Full HD Independent stream with

			adjustable resolution, quality and bit rate control.
14.	Intelligence	:	Built-in hardware motion detection, Tamper Alarm, Network disconnect, IP address conflict.
15.	Image settings	:	Video orientation (flip, mirror, rotation), Day /night settings. white balance, image adjustment, EIS (Electronic image stabilization). BLC (backlight compensation), HLC (High light compensation, WDR; Focus: zoom, focus, Privacy mask.
16.	Security	:	HTTPS, IEEE 802.1x, password protection.
17.	Supported protocols	:	TCP/IP, 802.1X, DHCP, DNS, FTP/SFTP, HTTP/HTTPS, IP v4, IP v6.
18.	Safety Certifications	:	BIS
19.	SD Card Support	:	Camera should have the provision to support SD Card's upto 128GB or Higher
20.	Operating Temperature	:	upto50°C or better
21.	Accessories	:	Wall mounting accessories, connector kits, Installation Guide, installation tools, recording software.
22.	Compatible standard and Protocol	:	Profile G, S, ONVIF
23.	Power	:	IEEE 802.3af PoE
24.	Protection	:	IP65 or better
25.	MII content		Minimum 20 %
26.	Warranty		3 Year or better

2. **Network Video Recorder (3nos):** The features given below are the minimum specification required for the Network Video Recorder Server for CCTV. The vendors should verify that the configuration/Operating system is suitable for their software and quote the required additional features and configurations.

1.	Manage/Record	:	up to 4 IP Cameras.
2.	Display resolution	:	1920x1080, 1280x720
3.	RAID Level	:	RAID 0, 1, 5 to be supported
4.	Storage	:	NVR should be populated with 2TB of Surveillance Grade HDDs
5.	Snapshot	:	JPEG
6.	PoE	:	802.3at/af Compliant PoE Ports x 16 (Total Max. 160 W)
7.	Outputs	:	HDMI x1
8.	Audio	:	3.5 Phone Jack Audio Output x1
9.	Camera Integration	:	ONVIF Profile S& G
10.	USB 2.0,3.0	:	Minimum 2nos (USB 2.0) and 1no (USB 3.0)
11.	Event	:	Motion Detection, Smart VCA Event, Cyber Attack, PIR Detection, Tampering Detection, Camera DI/DO, Camera Disconnected, Disk Failure, Disk Full, NVR DI/DO, PoE error
12.	Protocols	:	IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, SMTP, FTP, DHCP, NTP, DNS, DDNS, IP Filter
13.	Ethernet Port	:	10/100/1000Mbps Ethernet (RJ-45) x2
14.	Power Input	:	100-240V AC, 50/60Hz
15.	Operating	:	0°C ~ 40°C (32°F ~ 104°F)

	Temperature		
16.	Humidity	:	0 ~ 95%
17.	Safety Certifications	:	BIS

3. 4U Rack Wall Mount (3nos)

1.	Size	:	4 U Rack Frame, 550 x 600 mm
2.	Basic Frame	:	Steel
3.	Construction	:	Welded
4.	Side Panels	:	Integrated with top and bottom covers or (Removable type-on-request)
5.	Rack Mounting	:	Adjustable 4 nos. 19" angles with punched 10mm square holes and universal 12.7mm.
6.	Top and Bottom Panel	:	Vented with fan and cable entry provision
7.	Front Door	:	Lockable toughened glass door with ventilation
8.	Static Load	:	40 Kgs (approx.)
9.	Accessories	:	1 No Tray with 1 No 5/15 Amp 6 Port PDU and Suitable Mounting Hardware Kits

4. 27" Display with HDMI Cable (4 nos) to be wall mounted

1.	Diagonal Size	:	27"
2.	Type	:	Edge LED BLU or higher
3.	Resolution	:	FHD (1920 x 1080)
4.	Viewing Angle(H)	:	178°
5.	Operation Hour	:	24/7
6.	Speaker Type	:	Built in Speaker
7.	Input	:	Display Port 1.2 (1), HDMI 2.0 (2), USB 2.0 x 2
8.	Output	:	Stereo Mini Jack
9.	Power Supply	:	AC 100 - 240 V, 50/60 Hz
10.	Operating Temperature	:	0°C~ 40°C
11.	Humidity	:	10~80%
12.	Accessories	:	Quick Setup Guide, Warranty Card, Power Cord, Remote Controller, Batteries, Appropriate wall mounts, 10 Mtrs HDMI Cable