

### IP Surveillance Scope of Work – Compliance Matrix

S#	Scope of Work Description	Compliance (Yes/No)
1	The IP Surveillance system shall be configured to support live monitoring, scheduled recording, playback, and event-based alerts, ensuring compliance with client requirements.	
2	Bidder shall identify optimal camera mounting locations and cable routes in consultation with client inputs. Install PVC conduits and wall-mount racks for structured cabling.	
3	Shall ensure structured cabling is properly laid within PVC conduits, with no cables exposed or visible. Maintain aesthetics throughout the installation and strictly adhere to client safety standards.	
4	Shall mount and connect all IP cameras. Rack-mount the recording server and associated network equipment.	
5	Shall load VMS licenses and configure recording schedules, retention policies, and user access rights. Integrate cameras into the VMS platform for centralized monitoring.	
6	Shall deploy PoE switches and UTP cabling. Configure VLANs and QoS to ensure optimized video traffic.	
7	Shall configure camera groups and surveillance zones in alignment with client inputs, ensuring appropriate coverage for entrances, exits, and critical areas.	
8	Shall validate video quality, frame rates, and coverage. Conduct live monitoring tests and verify motion/event-based recording functionality.	
9	Shall include pre-defined recording schedules and event triggers (motion detection, intrusion alerts) as per client-provided timelines.	
10	Shall provide two days of training on system operation, playback, and basic troubleshooting for a minimum of three client staff members.	
11	Shall submit wiring diagrams, IP addressing plans, and configuration snapshots. Provide user manuals and conduct operator training.	

Technical Specification Sheet:

Sl. No	Item Description	Technical Requirement	Compliance (Yes/No)	Remarks
1	Supply, Installation, Testing and commissioning of 5MP IR Dome Camera	2.8mm Lens with Aperture of F1.6 (By Default) F2.0 (OnDemand), 1/2.8" CMOS Horizontal Field of View: 107 degrees and IR Range of up to 50 meters Video Analytics: Trip Wire, Intrusion Detection and Motion Detection H.265/H.264/M-JPEG Video Compression, BIS, CE, FCC, RoHS, IK10, IP67, UL PoE Support, NAS Storage, SD Card slot, Quad Stream Support, 1/1 Audio I/O, 1/1 Alarm I/O True WDR, 3D Noise Reduction, Adaptive Streaming, Smart Streaming, SNR > 70 dB <b>Cyber Security Features: STQC Certified as per OWASP ASVS 4.0 L2 NDAA Compliant</b>		
2	Supply, Installation, Testing and commissioning of 5MP IR Bullet Camera	2.8mm Lens with Aperture of F1.6 (By Default) / F2.0 (OnDemand), 1/2.8" Horizontal Field of View: 107 degrees and IR Range of up to 50 meters Video Analytics: Trip Wire, Intrusion Detection and Motion Detection H.265/H.264/M-JPEG Video Compression, BIS, CE, FCC, RoHS, IK10, IP67, UL, NEMA 4X PoE Support, NAS Storage, SD card slot, Quad Stream Support, 1/1 Audio I/O, 1/1 Alarm I/O True WDR, 3D Noise Reduction, Adaptive Streaming, Smart Streaming , SNR > 70 dB <b>Cyber Security</b>		

		<b>Features: STQC Certified as per OWASP ASVS 4.0 L2 NDAA Compliant</b>		
3	Supply, Installation, Testing and commissioning of 5MP Motorized Varifocal IR Bullet Camera	2.8-12mm Lens with Audio Support 1/2.8", PoE Support, NAS Storage, SD Card slot (SD card slot, Quad Stream Support, 1/1 Audio I/O, 1/1 Alarm I/O. <b>Cyber Security Features: STQC Certified as per OWASP ASVS 4.0 L2 NDAA Compliant</b>		
4	Supply, Installation, Testing and commissioning of Video Management System	Platform Built on Enterprise-grade Server and storage Hardware with Preloaded OS, DB and Built-in Cyber Secured VMS Functionalities: 8HDD Slots Preloaded with Software required and requisite License for the work, Latest Gen Intel Xeon processor having minimum 6 core single or dual processor ; 32GB RAM or higher capacity DDR4 RAM or better, Dual Input Hot Swap Redundant Power Supply, Hot Swap 3.5"/2.5" SATA HDD/SSD Drive , 2x 10 GbE LAN port. Storage saving using Adaptive Recording and 3 Level Data Backup Policies, Hardware RAID. with 70 Nos camera licences 2 Nos Client PC Licenses pre-loaded. Storing the footage for 70 Cameras at 1080P resolution/25FPS/H.265 for 90days backup with RAID05; All licenses, storage, hardware, software & accessories required for onboarding of camera to video		

		management system should be enclosed in the scope of supply. Hardware Sizing of the system to be such that all functionalities of Video management for 63 cameras as per technical requirement and can handle services for add on camera based on requirement		
5	Supply, Installation, Testing and commissioning of 75 inches professional display with floor mountable stand	Professional Display suitable for 24x7 operation, should support 4 K resolution, Memory, ports & other requirement should be in line with project requirement		
6	Supply, Installation, Testing and commissioning of Client PC	Intel core i5 latest Processor/ 32GB DDR4 RAM /512GB SSD nvme/ no ODD/ kbd+mouse/ Win 11 pro preloaded/ Display Port (DP)/ 4GB or higher Graphic Card - 1Nos		
7	Supply, Installation, Testing and commissioning of Managed switch	10/100/1000; 24 Port (all) PoE+(384W) L2 Insight; 4 SFP uplink ports. <b>The Supplied switch to be MTCTE certified</b>		
8	Supply Installation Testing of 8-port Gigabit PoE Switch	Network Smart Switch with with 2 Gigabit Fiber SFP PoE 46 Watts of power budget. <b>The supplied switch to be MTCTE certified</b>		
9	Supply, Installation, Testing and commissioning of SFP 1G Ethernet Fiber Module	Single mode SFP module to support greater than 1 KM distance for Managed Switches. SFP module should be of the same OEM of the Network Switch		
10	Supply, laying of	Supplied cable should		

	6 Core single mode armoured fiber optical cable	confirm to <b>ITU-T G.652D standards.</b>		
11	Supply, laying of Cat 6 UTP LSZH Cable	Supplied Cable should comply with TIA standards having conductor diameter of 23 AWG		
12	Supply, laying of 25mm PVC Pipe	Supplied PVC pipe to comply to heavy grade ISI grade with required accessories complete as per site requirement		
13	Supply, laying of 32mm outer dia HDPE duct	Supplied HDPE Duct should comply to BIS Standard; supply should include complete accessories as per site requirement		
14	Supply, installation of 12 Port single mode fully loaded rack mountable LIU	Supplied LIU to be TIA compliant & should include all accessories required for completion of the job		
15	Supply, Installation of outdoor Network Rack	Suitable for Outdoor usage for ingress protection from rain & dust, 6U Pole mount. All accessories including power distribution unit to be included in the scope of supply		
16	Supply, installation of duplex fiber optic OFC patch cards	LC-LC type of 3mtrs length, supplied cable should confirm to TIA Standards		
17	Supply, installation 24 Port Patch Panel	fully loaded Cat 6 patch panel with Ethernet Keystone; Should be TIA Compliant		
18	Supply, installation of Cat 6 Ethernet Patch cord 1mtrs length	Supplied Patch Cord to be factory crimped having conductor diameter of 24 AWG or better and should comply to TIA standards		
19	Supply, Installation of 9U	The supplied wall mount rack should have depth		

	wall mount network rack 600mm depth with all required accessories	of 600 mm. All accessories including Power Distribution Unit to be included in the scope of supply		
20	Supply, installation of HDMI cable of 5mtrs length	HDMI 2.1 or better with Bandwidth support of 48 Gbps to fully support 4K video at all frame rates		
21	Supply, Laying of 3 core 2.5sqmm flexible copper cable with required accessories	Supplied cable & accessories to confirm to BIS Standards		
22	Supply, Installation of 75mm dia GI Pole with required civil works as per site requirement	Should comply with BIS standards for outdoor installation		
23	Supply, Installation of 1 feet camera pole mounts with required accessories as per site requirement	As per existing standards		

***Other Terms & Conditions:***

Vendor is encouraged to visit the site at their own expense to gather necessary information for work.

The said work is to be carried out on turnkey basis. All item, accessories tools required for successful completion of the work is in the scope of bidder.

***Warranty:***

All items under supply & installation to be covered under comprehensive warranty for 03 (Three) Years from the date of acceptance of the complete system.

OEM authorization for active and passive components to be submitted along with the bid.

***Delivery Period:***

75 days from the date of award of Purchase Order.

***Installation & Commissioning Period:***

60 days from the date of receipt of material at site.

***Documentation:***

Layout drawing in valid format for installed camera & active components to be prepared by the vendor and submitted to NTPC before final acceptance of the system

***Payment Terms:***

Supply Part: 80 percent of the supply cost for all active components after receipt & inspection at site

***Installation & Commissioning Part:***

20 percent of retained amount against supply part of active component & 100 percent of all passive components under supply, interconnecting cable/connector & integration & commissioning on acceptance and handover of the equipment.