RATE CONTRACT FOR SITC OF CCTV AT STATE BANK INSTITUTE OF CREDIT & RISK MANAGEMENT, GURUGRAM

CORRIGENDUM: NIT No. SBICRM/SECURITY-CCTV dated 17.09.2021

CLARIFICATIONS / ADDITIONS TO THE BID

Subsequent to Pre-Bid Meeting of 24.09.2021 held at SBICRM, Gurugram, the following clarifications / additions to the Tender Documents of the referred NIT are made:

S/no	NIT Clause No / Matter	Point / Observation	Clarification / Addition
a.	Page No. 24, Para 35.4	The make and type of the products must conform to Bank's requirement and must be specified by the Company. The manufacturer of the equipment must have a sound and well documented quality framework. A proof of the same is required to be provided by the vendor. "What proof to be provided by the vendor"	It was clarified that the vendor to submit a written certificate of OEM to the effect.
b.	Bill of Quantities	In BOQs there is an option of "or" for NVRs, LED Screens. This needs clarity.	It was decided to call quotes for only 32 Channel NVR and 42"/43" LED Screen of LG/Samsung/Sony makes only. Necessary changes have been made to BOQ
		In BOQs, the number of various PoE switches was not specified.	It was clarified vendor to quote on per Unit basis. Actual quantity will be as per requirement at the time of work execution.
c.	Specs of Third Stream Frame Rate for the cameras	Specs of Third Stream Frame Rate for the cameras are not mentioned.	It was decided to incorporate specs for the third stream to be same as other streams. Necessary changes have been made to BOQ
d.	Requirement of HDD in BOQ.	Requirement of HDD in BOQ does not conform with no. of days of back-up required.	It was clarified that the total number of HDD 8TB would be 16, i.e. 4 HDD in each NVR. Necessary changes have been made to BOQ
e.	Annexure – 6, Ser 10 to 13 & 18 to 19.	Quantities in Annexure 6 Ser 10 to 13 and 18 to 19 are mentioned as "as & if required" This needs quantification.	It was decided to call quotes on "per unit" basis. L1 Bidder can thereafter work out the actual requirement at the time of installation.

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S/no	NIT Clause No / Matter	Point / Observation	Clarification / Addition
f.	USB Interface in NVR	As per Tender documents requirement of USB in NVR is given as 04 USBs. These could be amended to 03 USBs	It was decided to amend the requirement as 1XUSB 3.0 and 2XUSB 2.0. Necessary changes have been made to BOQ
g.	Specifications of Cable Video Cat 6.	Cable Video Cat 6 is mentioned as unarmoured. It was advised by vendors to use Armoured Cable	Point was agreed to. Necessary changes have been made to BOQ
h.	Use of Optical Fibre in the system	Integration of Cat 6 Cable with Optical Fibre Cable as backbone of the system to make it more robust and incorporation of the same in the BOQ	Point was agreed to. Necessary changes have been made to BOQ
i.	Specifications of Power Cable	Specs of Power Cable were mentioned as "2 Core Power cable Unarmoured", these to be changed to "3 Core Power Cable 1.5 MM (Armoured)	Point was agreed to. Necessary changes have been made to BOQ

In view of the above clarifications, changes / additions have been incorporated in the BOQs and the specifications of the necessary components as per following:

S/no	Subject	List
1.	BOQ – Indicative Price Bid	Annexure – 1
2.	BOQ – Indicative Price Bid for Reverse auction (if required to be undertaken)	Annexure – 2
3.	Specifications of NVR	Annexure – 3
4.	Specifications of 2 MP HD Varifocal IP 1080 Bullet Camera	Annexure – 4
5.	Specifications of 2 MP IP IR Fixed Lens 1080 Dome Camera	Annexure – 5
6.	Specifications of other Components	Annexure – 6
7.	Specifications of Core Switch	Annexure – 7
8.	Specifications of POE Switch 24 Channel	Annexure – 8

Note: The above changes pertain to the quantity, type and specifications of only that equipment / component which has been added / replaced subsequent to the Pre-Bid Meeting of 24.09.2021. All the other terms & conditions and specifications already contained in the original NIT remain as they are.

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Annexure- 1

SL.No	Item Description	Tentative Qty	Amount Excluding GST (ONLY PER UNIT PRICE TO BE QUOTED)
	BILL OF QUANTITY INDICATIVE PRICE BID		
	NET VIDEO RECORDER		
1	SITC of NVR 32 Channel 8 SATA as per Technical Specification of NIT - **Make & Model No** :	04 Nos	
	IP CAMERAS		
2	Dome Camera 2 MP, HD IP IR as per Technical Specification of NIT - **Make & Model No** :	60 Nos	
3	Bullet Camera 2 MP, HD IP IR as per Technical Specification of NIT - **Make & Model No** :	60 Nos	
	ACCESSORIES / CABLES / SWITCHES ETC		
4	42/43" LED Colour Monitor (complete with Wall Mount) as per Technical Specification of NIT (Brand Offered)	04 Nos	
5	HDD 8 TB as per Technical Specification of NIT	16 Nos	
6	Cat 6 Cable with RJ45 connectors & all accessories. ISI Marked as per Technical Specification of NIT (including laying charges)	3100 Mtrs.	
7	Cable – 3 Core 1.5 Sq mm Power ISI marked as per Technical Specification of NIT	1150 Mts.	
8	Core Switch for NVR connectivity (Including Stacking Cable)	2 Nos	
9	POE Switch 24 Channel as per Technical Specification of NIT	9 Nos	
10	10KM SFP Transceiver	24 Nos	
11	OfC Cable 06F Outdoor - Armoured Unitube SM - HDPE Sheath	1150 Mts.	
12	LIU 24 PORT Rack Mount - Loaded (LC) SM with pigtail	1 Nos	
13	LIU 12 PORT Rack Mount - Loaded (LC) SM with pigtail	8 Nos	
14	PATCH CORD LC-LC SM DUPLEX LENGTH- 1m	24 Nos	
15	Patch Panel Cat 6 UTP Keystone Type- 24 Port-Fully Loaded	9 Nos	

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16	RJ45 Keystone IP20	250 Nos	
17	POE Switch 16 Channel as per Technical Specification of NIT	As & if required	
18	POE Switch 08 Channel as per Technical Specification of NIT	As & if required	
19	POE Switch 04 Channel as per Technical Specification of NIT	As & if required	
20	PVC Conduit Pipe as per Technical Specification of NIT	2500 Mtrs	
	CPVC Plumbing Pipe ONLY for underground cabling	As required	
21	Wireless Mouse	4 Nos	
22	42 U Floor Rack for Server room with all accessories as per Technical Specification of NIT	1 Nos	
23	12 U Fully Loaded Rack with all accessories as per Technical Specification of NIT	9 Nos	
24	HDMI Cables	As required	
25	Video splitter 4 Output 1 Input HDMI	As & if required	
26	Supply Installation, Testing, commissioning, Transportation & laying of OFC /Power/ Cat 6 cable Including all related accessories & Splicing etc.	1 Complete Job	
27	**Comprehensive AMC Charges** for making 4 mandatory quarterly visit per year for maintaining the CCTV system after post-warranty of one year as per the Standard Service Level Agreement.	1st Year	
		2nd Year	
		3rd Year	
		4th Year	
28	**Buy Back Rates of Old Equipment**		
	16 Channel LG DVR	3	
	16 Channel Dahua DVR	1	
	06 Channel Samsung DVR	1	
	PTZ Camera	7	
	Dome & Bullet Cameras	77	

Note:

i. Rates quoted should be inclusive of transportation, octroi.

ii. Rates quoted shall be valid from the date of contract signed

iii. Final sample / model will be approved by the Bank.

iv. GST as applicable will be paid by the Bank

Annexure – 2

RATE CONTRACT FOR SITC OF CCTV AT STATE BANK INSTITUTE OF CREDIT & RISK MANAGEMENT, GURUGRAM

SL.No	Item Description	Tentative Qty	Amount Excluding GST (PACKAGE COST)
	BILL OF QUANTITY INDICATIVE PRICE BID FOR REVERSE AUCTION		
	NET VIDEO RECORDER		
1	SITC of NVR 32 Channel 8 SATA as per Technical Specification of NIT - **Make & Model No** :	04 Nos	
	IP CAMERAS		
2	Dome Camera 2 MP, HD IP IR as per Technical Specification of NIT - **Make & Model No** :	60 Nos	
3	Bullet Camera 2 MP, HD IP IR as per Technical Specification of NIT - **Make & Model No** :	60 Nos	
	ACCESSORIES / CABLES / SWITCHES ETC		
4	42/43" LED Colour Monitor (complete with Wall Mount) as per Technical Specification of NIT (Brand Offered)	04 Nos	
5	HDD 8 TB as per Technical Specification of NIT	16 Nos	
6	Cat 6 Cable with RJ45 connectors & all accessories. ISI Marked as per Technical Specification of NIT (including laying charges)	3100 Mtrs.	
7	Cable – 3 Core 1.5 Sq mm Power ISI marked as per Technical Specification of NIT	1150 Mts.	
8	Core Switch for NVR connectivity (Including Stacking Cable)	2 Nos	
9	POE Switch 24 Channel as per Technical Specification of NIT	9 Nos	
10	10KM SFP Transceiver	24 Nos	
11	Ofc Cable 06F Outdoor - Armoured Unitube SM - HDPE Sheath	1150 Mts.	
12	LIU 24 PORT Rack Mount - Loaded (LC) SM with pigtail	1 Nos	
13	LIU 12 PORT Rack Mount - Loaded (LC) SM with pigtail	8 Nos	
14	PATCH CORD LC-LC SM DUPLEX LENGTH- 1m	24 Nos	
15	Patch Panel Cat 6 UTP Keystone Type- 24 Port-Fully Loaded	9 Nos	
16	RJ45 Keystone IP20	250 Nos	
17	POE Switch 16 Channel as per Technical Specification of NIT	As & if required	

18	POE Switch 08 Channel as per Technical Specification of NIT	As & if required	
19	POE Switch 04 Channel as per Technical Specification of NIT	As & if required	
20	PVC Conduit Pipe as per Technical Specification of NIT	2500 Mtrs	
	CPVC Plumbing Pipe ONLY for underground cabling	As required	
21	Wireless Mouse	4 Nos	
22	42 U Floor Rack for Server room with all accessories as per Technical Specification of NIT	1 Nos	
23	12 U Fully Loaded Rack with all accessories as per Technical Specification of NIT	9 Nos	
24	HDMI Cables	As required	
25	Video splitter 4 Output 1 Input HDMI	As & if required	
26	Supply Installation, Testing, commissioning, Transportation & laying of OFC /Power/ Cat 6 cable Including all related accessories & Splicing etc.	1 Complete Job	
27	**Comprehensive AMC Charges** for making 4 mandatory quarterly visit per year for maintaining the CCTV system after post-warranty of one year as per the Standard Service Level Agreement.	1st Year	
		2nd Year	
		3rd Year	
		4th Year	
28	**Buy Back Rates of Old Equipment**		
	16 Channel LG DVR	3	
	16 Channel Dahua DVR	1	
	06 Channel Samsung DVR	1	
	PTZ Camera	7	
	Dome & Bullet Cameras	77	

Note:

i. Rates quoted should be inclusive of transportation, octroi .
ii. Rates quoted shall be valid from the date of contract signed
iii. Final sample / model will be approved by the Bank.
iv. GST as applicable will be paid by the Bank

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<u>32 CHANNEL NETWORK VIDEO RECORDER</u>

(Only Dahua / Hikvision / Honeywell or Equivalent brands)

S. No		Parameters	Technical Specifications	Remarks	Yes/ No
1.	Video/Audio input	IP video input	32 Ch		
		Two-way audio input	1-Ch, RCA (2.0 Vp-p, 1KΩ)		
2.	Network	Incoming bandwidth	320 Mbps		
		Outgoing bandwidth	256 Mbps		
		Remote connection	128 or higher		
3.	Video/ Audio output	Recording resolution	12MP/8MP/6MP/5MP/3MP/1080P/UXGA/720P/VGA/4CIF/DCIF/2CIF/CIF/QCIF		
		Video Compressor	H.265+/ H.265 / H.264+ / H.264 / MPEG4		
		Frame rate	Mainstream: 50 fps (P) / 60 fps (N)		
			Sub-stream: 25 fps (P) / 30 fps (N)		
		HDMI/VGA output	HDMI 4K (3840 × 2160)/30Hz, 2K(2560 × 1440)/60Hz, 1920 × 1080/60Hz, 1600 × 1200/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz. VGA : 1920 × 1080/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz		
		Audio output	1-ch, RCA (Linear, 1KΩ)		
4.	Decoding	Live view / Playback resolution	6MP/5MP/3MP/1080P/UXGA/720P/VGA/4CIF/DCIF/2CIF/CIF/QCIF		
		Capability	16 CH X 1080P		
5.	Hard disk	SATA	8 SATA interfaces each supportingup to 10 TB		
		RAID	RAID0, RAID1, RAID5, RAID6, and RAID10 (up to 10 TB for each HDD)		

6.	External Interface	Network interface	2 RJ-45 10 /100 / 1000 Mbps self-adaptive Ethernet interface		
		USB interface	1 × USB 3.0 and 2 × USB 2.0	16/32 Ch	
		Alarm IO	16/4		
7.	Others	Power supply	12V DC / 100~ 240 VAC		
		Consumption (without hard disk)	As per standard / OEM Specified	16/32 Ch	
		Working temperature	-10 ºC ~ +55 ºC (+14 ºF~ + 131 ºF)		
		Working humidity	10 % ~ 90 %		
8.	Certification		UL and FCC or CE/BIS		

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Annexure - 4

<u>SPECIFICATION: 2MP HD VARIFOCAL LENS IP 1080 BULLET CAMERA</u>

(Only Dahua / Hikvision / Honeywell or Equivalent brands)

Sr. No	Parameters	Technical Specifications	Remark	Yes/ No
	Camera – Brand Name :			
1.	Image Sensor	1 / 2.7" progressive scan CMOS		
2.	Min. Illumination	Color: 0.005 Lux @(F1.6, AGC ON), B/W : 0 Lux with IR with IR		
3.	Shutter Speed	1/3 s to 1/100, 000 s, support slow Shutter		
4.	Slow Shutter	Yes		
5.	Day & Night	IR Cut Filter		
6.	Digital Noise reduction	3D DNR		
7.	WDR	120dB		
8.	Angle Adjustment	Pan: 0° to 355°, tilt: 0° to 70°, rotation: 0° to 360°		
	Lens			
9.	Focal Length	Varifocal Lens, motorized lens, 2.7 to 13.5 mm		
10.	Aperture	F1.6		
11.	Focus	Auto / Scheduled		
12.	FOV	Horizontal FOV 94° to 36°, Vertical FOV 50° to 20°, diagonal FOV 109° to 41°		
13.	Lens Mount	Ø14		
	IR			
14.	IR Range	Up to 40m		
15.	Smart Supplement Light	Yes		
16.	Wavelength	850nm		
	Compression Standards			
17.	Video Compression	Main stream: H.265,H.264 Sub stream: H.265,H.264/MJPEG Third stream: H.265/H.264		

18.	H.264 Type	Baseline Profile/Main Profile/High Profile		
19.	H.265 Type	Main Profile		
20.	Video Bit Rate	32 Kbps to 8 Mbps		
	Image			
21.	Max. Resolution	1920 X 1080		
22.	Main Stream Max Frame Rate	50Hz: 25fps (1920 × 1080,1280 × 720) 60Hz: 30fps (1920 × 1080, 1280 × 720)		
23.	Sub-stream Max. Frame Rate Third Stream Max Frame Rate	50Hz: 25fps (640 × 480, 640 × 360, 320× 240) Same as sub-stream		
24.	Image Enhancement	BLC, 3D DNR		
25.	Image Setting	Brightness, saturation, contrast, sharpness are adjustable via web browser or client software		
26.	Day / Night Switch	Auto, Scheduled		
	Audio			
27.	Audio Compression	G.711ulaw/G.711alaw/G.722.1/G.726 /MP2L2/PCM/AAC		
28.	Audio Bit Rate	64 Kbps(G.711 ulaw/G.711 alaw)/16 Kbps(G.722.1)/16 Kbps(G.726)/32 to160 Kbps(MP2L2)/16 to 64 Kbps(AAC)		
29.	Audio Sampling Rate	8 kHz/16 kHz		
30.	Environment Noise Filtering	Yes		
	Network			
31.	Network Storage	Built-in Memory Card Slot. Support micro SD/SDHC/SDXC card (up to 256GB), local storage and NAS (NFS,SMB/CIFS), ANR		
32.	Alarm Trigger	Motion detection, Vedio Tampering alarm, Network Disconnected, IP address Conflicted, Illegal Login, Line Crossing, Intrusion Detection		
33.	Protocols	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP,RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, Ipv6, Bonjour		

34.	MAC	MAC ID of the IP Cameras should be registered with the OEM		
35.	Standard	ONVIF (PROFILE S, PROFILE G),PSIA, CGI, ISAPI		
36.	General Function	One-key rest, anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filter		
	Interface			
37.	Communication Interface	1 RJ45 10M/100M self-adaptive Ethernet port		
38.	Built in Microphone	Yes		
39.	Reset	Yes		
40.	Video Output	1Vp-p composite output (75 Ω / BNC)		
	General			
41.	Operating Conditions	-30 °C to 60°C (-22 °F to 140°F), humidity: 95% or less (non-condensing)		
42.	Power Supply	DC12V ± 25%, POE (802.3af)		
43.	Power Consumption	Max. 5.5 W/11 W		
44.	Ingress Protection	IP 67 & 1 K 10, TVS 2000V lightening protection, Surge protection & Voltage transient protection		
45.	Material	Metal & Plastic		
46.	Certification	UL and FCC or CE/BIS		

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SPECIFICATION : 2MP HD FIXED LENS IP IR 1080 DOME CAMERA

(Only Dahua / Hikvision / Honeywel or Equivalent brands)

Sr. No	Parameters	Technical Specifications	Remark	Yes/ No
	Camera			
1.	Image Sensor	1 / 2.7" progressive scan CMOS		
2.	Min. Illumination	Color: 0.005 Lux @(F1.6, AGC ON), B/W : 0 Lux with IR with IR		
3.	Shutter Speed	1/3 s to 1/100, 000 s, support slow shutter		
4.	Slow Shutter	Yes		
5.	Day & Night	IR Cut Filter		
6.	Digital Noise reduction	3D DNR		
7.	WDR	120dB		
8.	Angle Adjustment	Pan: 0° to 355°, tilt: 0° to 70°, rotation: 0° to 360°		
	Lens			
9.	Focal Length	2.8MM, 4MM, 6MM		
10.	Aperture	F1.6		
11.	Focus	Auto , Scheduled		
12.	FOV	Horizontal FOV 111° to 56°, Vertical FOV 59° to 29°, Diagonal FOV 133° to 65°		
13.	Lens Mount	M12		
	IR			
14.	IR Range	Up to 40m		
15.	Smart Supplement Light	Yes		
16.	Wavelength	850nm		
	Compression Standards			
17.	Video Compression	Main stream: H.265,H.264		
		Sub stream: H.265,H.264/MJPEG		
		Third stream: H.265/H.264		

18.	H.264 Type	Baseline Profile/Main Profile/High Profile		
19.	H.265 Type	Main Profile		
20.	Video Bit Rate	32 Kbps to 8 Mbps		
	Image			
21.	Max. Resolution	1920 X 1080		
22.	Main Stream Max Frame Rate	50Hz: 25fps (1920 × 1080,1280 × 720) 60Hz: 30fps (1920 × 1080, 1280 × 720)		
23.	Sub-stream Max. Frame Rate Third Stream Max. Frame Rate	50Hz: 25fps (640 × 480, 640 × 360, 320× 240) Same as sub stream		
24.	Image Enhancement	BLC, 3D DNR		
25.	Image Setting	Brightness, saturation, contrast, sharpness are adjustable via web browser or client software		
26.	Day / Night Switch	Auto, Scheduled		
	Audio			
27.	Audio Compression	G.711ulaw/G.711alaw/G.722.1/G.726 /MP2L2/PCM/AAC		
28.	Audio Bit Rate	64 Kbps(G.711 ulaw/G.711 alaw)/16 Kbps(G.722.1)/16 Kbps(G.726)/32 to160 Kbps(MP2L2)/16 to 64 Kbps(AAC)		
29.	Audio Sampling Rate	8 kHz/16 kHz		
30.	Environment Noise Filtering	Yes		
	Network			
31.	Network Storage	Built-in Memory Card Slot. Support micro SD/SDHC/SDXC card (up to 256GB), local storage and NAS (NFS,SMB/CIFS), ANR		
32.	Alarm Trigger	Motion detection, Video Tampering alarm, Network Disconnected, IP address Conflicted, Illegal Login, Line Crossing, Intrusion Detection		
33.	Protocols	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP,RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, Ipv6, Bonjour		

34.	MAC	MAC ID of the IP Cameras should be registered with the OEM		
35.	Standard	ONVIF (PROFILE S, PROFILE G),PSIA, CGI, ISAPI		
36.	General Function	One-key rest, anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filter		
	Interface			
37.	Communication Interface	1 RJ45 10M/100M self-adaptive Ethernet port		
38.	Built in Microphone	Yes		
39.	Reset	Yes		
40.	Video Output	1Vp-p composite output (75 Ω / BNC)		
	General			
41.	Operating Conditions	-30 °C to 60°C (-22 °F to 140°F), humidity: 95% or less (non-condensing)		
42.	Power Supply	DC12V ± 25%, POE (802.3af)		
43.	Power Consumption	Max. 5.5 W/11 W		
44.	Ingress Protection	IP 67 & 1 K 10, TVS 2000V lightening protection, Surge protection & Voltage transient protection		
45.	Material	Metal & Plastic		
46.	Certification	UL and FCC or CE/BIS		

Annexure – 6

OTHER COMPONENTS

S.No	Item Name	Specifications		Yes/ No
1.	Hard Disk Drive (SATA II or III)	Samsung / Seagate/WD/Hitachi. VideoSurveillance Series (Rated for 24/7 operation). 32~64 MB Cache, 3Mb ~ 6Mb per second data transfer rate, Spindle Speed 7200 RPM or more.		
	Capacity	8TB (Terra Bytes)		
2.	**MONITOR (SurveillanceGrade)**	Anti-glare Surveillance Grade 24X7 working LED Samsung / LG / Sony Brands.		
	Screen size	42" to 43" diagonal LED		
	Warranty	05 Years		
	Video	PAL		
	Resolution (Min)	Full HD (FHD)		
	Power Input	12/24 V DC		
	Viewing Angle	140 degree H, 130 degree V		
	Power consumption	NOT EXCEEDING 40 Watts		
3.	**Cable – CAT6 UTP 23AWG Solid:305M armored**			
	Category	CAT 6		
	Category 6 Unshielded Twisted Pair 4 pair cable shall be compliant with ANSI/TIA/EIA-568-C.2 channel performance & IEC/ISO 11801 Class E			
	Category 6 UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, 23 AWG, UTP.			
	Construction: 4 twisted pairs separated by internal X shaped, 4 channel, full separator. Half shall not be accepted.			
	Conductor diameter :23 AWG			
	Insulation : HIGH DENSITY POLYETHYLENE Pairing TWISTED INTO TWO CORE			
	No.of Pair:4 PAIR TWISTED TOGETHER			
	Inner Jacket Material PVC-GREY			
	Thickness of Inner Jacket 0.65mm Nominal Armouriing :Aluminium Wire			
	Size of Aluminium Wire: 0.80mm Nominal			

Outer Jacket Material: FR-PVC		
Outer Color of sheath: BLACK		
RIP CORD: YES		
Cable Outer Diameter: 9.5mm Nominal		
Thickness of Outer Jacket :0.85 mm		
Sequential meter marking: YES		
Temperature Rating:(- 20 to +60 C)		
Flame: IEC 60332-1		
Packing :305 Mtrs Reel		

	Cable – Power	Make – Polycab/Finolex and equivalent	
4.	Category	3 core power cable (Unarmoured)	
	Type	3 core 1.5 sq mm each	
	Acceptable Quality	ISI Marked (IS-694, 1990). Make – Finolex / Incab / Polycab or equivalent	
	Insulation	PVC Insulated	
5.	**OS 2 Fiber Cable for connecting all floor to central location**		
	6 core Fibre with Central Loose tube with jelly compound, Nominal Corrugated Steel Tape Armoring, suitable load Indoor / Outdoor (duct) Local Area network system. With excellent water proof layer & good moisture resistance, crush resistant performance, light weight, Compact structure.		
	Standards:-ISO : 11801 , IEC : 60793-1/60794-1-2, ITU-T : REC G.652D Telcordia : GR-20 Core		
	Fibre - type & Refractive Index:- 9/125 / G.652D /1.4674/1.4679		
	Wavelength :-1310 ,1550		
	Operating Temperature -20 deg C to + 70 deg C Storage Temperature -40 deg C to + 70 deg C		
6.	**PVC / CPVC Conduits for cabling.**		
	Specifications	<u>Normal cabling</u>: IS-9537-1983; Internal Dia 20 mm "+ -" 1 mm, Wall Thickness- 4.2~5 mm <u>Underground cabling</u>: CPVC pipes with above minimum specifications.	
	Acceptable Quality	ISI Marked. Make – AKG / Polycab / Finolex / Supreme	

	Grade	Medium	
7.	**42 U FLOOR RACK FOR SERVER ROOM**	Dynamic / Valrack/ Rackcom or Equivalent of established & well-known brand with all accessories	
	Supply of Industry Standard Conforms to DIN 41494 or equivalent standard with standard size of 42 U with 800mm Width and 1000 Mm Depth for mounting Core Switch and NVR		
	Construction Welded or CKD (knockdown)		
	Front Door LockableToughended Glass Door or Perforated ,Basic Frame Steel		
	Equipment Mounting DIN Standard 10mm Sq. Slots / Direct M6 Tap : 19" Mounting angle made of formed steel, Mounting Angle,Standard Finish: Powder Coated		
	Top and Bottom Cover: Welded to Frame, Vented and Cable entry/exit cut outs on Top & Bottom		
	Standard Mounting Option: Castor wheels (Front 2 wheels with Break and rear without break) Or Levelers, Standard Color: Grey or Black, Static Load: 400 to 1000 kgs (Based on the size of the Enclosure)		
8.	**12 U Rack**	Standard EIA/NEMA rails. 16 Amp Power Sockets Dynamic / Valrack/Rackcom or Equivalent of established & reputed brand with all accessories conforming to industry standard practices.	
	Supply of Industry Standard: Conforms to DIN 41494 or equivalent standard size of 12 U with 500 mm Depth and 450 mm width for mounting Floor PoE switch and LIU		
	Construction: Welded or CKD, Front Door: Lockable Toughened Glass Door		
	Basic Frame: Steel, Equipment Mounting: DIN Standard Slots		
	Mounting Angle: 19" Mounting angles made of formed steel, Standard Finish: Powder Coated		
	Top and Bottom Cover: Welded to Frame, Vented and Field Cable entry exit cut outs, Standard Color: Grey, Static Load: Upto 40 kgs.		
	The OEM for Passive cable and component should be ISO 9001 and 14001 certified for Quality products		
9.	**Network Accessories**: A. **SFP Module** B. **Patch Cord** C. **LIU 12 & 24 Port fully loaded** D. **Patch Panel Cat 6 UTP Keystone Type- 24 Port-Fully Loaded**		
A.	**1 G Trans receiver**		

	1000BASE-LX Single Mode SFP Transceiver with Duplex LC Connector	
	At least 10Km distance support on single mode fiber interface	
	IEEE 802.3z Gigabit ethernet compliant,	
	Hot pluggible & compliant with multi-source agreement (MSA)	
	Should be same make as switches.	
B.	**LC-SC Duplex Fibre Patch Cord Technical Specification**	
	Adopts high precision ceramic ferrule with good concentricity	
	Fibre corning single mode G652D,G657A,G657B	
	Cable Type 0.9mm, Optical Fibre – Corning Single Mode Connector: Zirconia ceramic ferrule	
C.	**LIU -12 & 24 Port fully loaded**	
	Rack Mountable , Top cover and base with Aluminium base material for light mounting	
	Space saving with its compact & small design of enclosure	
	Removable front and rear covers for better access to interior of LIU	
	Corning single-mode G652D,G657A,G657B, Cable Type:-0.9mm, Optical Fibre – Corning Single Mode, Connector: Zirconia ceramic ferrule	
D.	**Patch Panel Cat 6 UTP Keystone Type- 24 Port-Fully Loaded**	
	The Cat-6 transmission performance is in compliance with the ANSI/TIA/EIA 568C.2 standard.	
	Allow for a minimum of 200 re-terminations without signal degradation below standards compliance limit.	
	Have port identification numbers on the front of the panel.	
	Should have self-adhesive, clear label holders and white labels with the panel Panel should be of 1U height with 24 port pre-loaded IO.	
	IDC: Suitable for 22-26 AWG stranded and solid wire compatible with both 110 & Krone punch down tools	
	IDC cap : ABS, UL 94V -2 and Phosphor bronze with tin plated and Made of powder coated steel	
	Plastic Housing: Polycarbonate, UL94V-0 rated or equivalent	
	Jack Bracket set ABS , UL94V-0 rated	
	Operating Life: Minimum 750 insertion cycles, Contact Material: Copper Alloy	
	Contact Plating: 50µ" Gold plated on plug contact area	
	Contact Force: 20N max (IEC 60603-7-4), Plug Retention Force: 15 lb.	

Note: Power sockets wherever required will be provided by the vendor. Necessary Power supply and UPS connection will be provided by the Bank.

Annexure – 7

RATE CONTRACT FOR SITC OF CCTV AT STATE BANK INSTITUTE OF CREDIT & RISK MANAGEMENT, GURUGRAM

CORE SWITCH

(Dahua / Hikvision / Honeywel / Cisco/ HP / D-Link / Arista)

Core L3 switch at central location		Make Cisco/ HP / D-Link / Arista		
S.No	**Technical Parameters**	**Technical Specifications**	**Remarks**	**YES/NO**
1	Architecture	(i) Switch should have minimum 24 x 10/100/1000BASE-T PoE ports with 2 x 10GBASE-T ports and 4 x 10G SFP+ ports including from day one		
2		(ii) Switch should provide option of Redundant power supply		
3		(iii) The Switch should provide 370W PoE power budget and 740W with Redundant power supply		
4		(iv) Switch shall have Min. 2 GB SD RAM & 256 MB Flash Memory or better		
5		(v) Switch shall have SD Card slot or USB Port for easy file store & restoration like firmware, configuration file, boot image, syslog etc.		
6		(vi) Switch should have Console Port (10/100/1000BASE-T RJ-45 port for out-of-band CLI management) Management Port (10/100/1000BASE-T RJ-45 port for out-of-band IP management).		
7		(vii) The Switch should support for Physical stacking up to 9 units per stack and can be upgradable up to 12 units.		
8	Performance	(i) Switch shall have Non-blocking architecture with minimum 168 Gbps Switching Capacity and minimum 125 Mpps packet forwarding rate or higher		
9		(ii) The Switch Should support Jumbo Frame up to 9K or more		
11	Layer 2 Features	(i) The Switch shall support IGMP Snooping v1,v2, v3 & MLD Snooping v1,v2 with minimum 1024 multicast groups support		
12		(ii) The Switch should support Spanning tree protocols as per IEEE standards IEEE 802.1d, IEEE 802.1w and IEEE 802.1s, Root Restriction, Loopback Detection		

13		(iii) The Switch should have 802.3ad Link Aggregation Up to Max. 32 groups per device, 8 Gigabit ports per group		
14		(iv) Switch should support mechanism to prevent loop formation in Ethernet ring and enables ring to converge in less than 50 ms from node or link failure		
15		(vii) It should support LLDP and LLDP-MED		
17		(i) The LAN switch should have IEEE 802.1Q VLAN encapsulation, up to 4000 VLAN IDs		
18		(ii) Switch shall support VTP/GVRP or equivalent		
19		(iii) Switch Should Support Double VLAN and (Q-in-Q)		
20	**VLAN**	(iv) It shall support Guest VLAN , Port-based VLAN, 802.1v Protocol VLAN Voice VLAN, MAC-based VLAN, VLAN translation, D35 ISM VLAN • Asymmetric VLAN • Private VLAN • VLAN Trunking		
22		(i) It should support 802.1p Priority Queues (8 Queues)		
23		(ii) Switch shall support for QOS mechanisms Strict Priority Queue (SPQ, Weighted Round Robin (WRR), SPQ + WRR		
24	**Quality of Service**	(iii) Shall support Rate Limiting functions on per port to guarantee bandwidth in increments should be as low as 8 Kilobits per Second		
25		(iv) Class of service shall be based on Switch port, DSCP, Vlan ID,TCP/UDP port, Protocol type,802.1p queues, IPv4/v6 address, IPv6 flow label & User defined packet content		
26		Two Rate Three Color Marker (trTCM), CBS/PBS & Single Rate Three Color Marker (srTCM), CBS/EBS		
28	**Network Security**	(i) The LAN Switch should have the capability to support access list based on IPv4/v6 address, Protocol type, IPv6 flow label,VLAN-ID, MAC-ID, DSCP, IPv6 traffic class, TCP/UDP Port and User-defined packet content		
29		(ii) Switch shall support Time based ACL		

30		(iii) The Switch should support minimum 1.5K Ingress Access Control Entries.		
31		(iv) The LAN switch should support IEEE 802.1x to allow port-based, MAC based and web based security, providing user authentication		
32		(v) It should support SSHv2, SNMPv3; SNMP over IPv6 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions		
33		(vi) It should support ; Local database ;RADIUS authentication ; TACACS+		
34		(vii) It should support DHCP snooping and to allow administrators to ensure consistent mapping of IP to MAC addresses		
35		(viii) It should support port security to secure the access to an access or trunk port based on MAC address and it should be minimum 60 MAC-ID per Port		
36		(ix) It should have IP-MAC-Port binding		
37	**OEM Terms**	(i) Manufacturer should have ISO 9001:2008 Certification for Quality Management System.		
38		(ii) Manufacturer should have ISO 14001:2004 Certification for Environmental Management System.		
39	**L3 Features**	The swithc should support Max. 16 IP Interfaces, ARP Proxy, IPv6 Neighbour Discovery (ND)		
40		The swithc should support Static Route, Max. 512 IPv4 entries, Max. 512 IPv6 entries & RIPv1/v2/ng, OSPF v1/v2		
41	**Management**	(i) It should support SNMPv1, v2c, v3 and Telnet interface to deliver comprehensive in-band management, and a CLI-based management console to provide detailed out-of-band management		

42		(ii) Switch shall support Netflow/Jflow/Sflow		
43		(iii) It should have RMON software agent to support four RMON groups for enhanced traffic management, monitoring and analysis		
44		(iv) It should support TFTP to reduce the cost of administering software upgrades by downloading from a centralized location also it should Support Secure FTP		
45		(v) It should support DHCP Server,relay, DHCPv6 relay		
46		(vi) It should support Network Timing Protocol (NTP/SNTP) to provide an accurate and consistent timestamp to all intranet switches		
47		(vii) It shall support configuration rollback to replace current configuration with any saved configuration file		
48		(viii) Switch shall consume less power through auto-detection of link status and cable length		
49	**Product Certifications**	It should have CE, FCC, UL, C-Tick, VCCI, IPv6 Ready Logo Phase 2 certifications		

Annexure – 8

POE SWITCH 24 CHANNEL

(Make : DLink / HP / Dahua / Hikvision / Honeywel)

S.No	Technical Specifications	YES/NO
1	Layer-2 Managed Switch having 24x10/100/1000BaseT PoE ports & 4x combo 10/100/1000BaseT ports/1G SFP slots with 370 W of PoE power budget	
2	Switching Capacity Minimum 52 Gbps	
3	Packet Forwarding Rate should be at least 41.7Mpps for 64-byte packet size	
4	The switch should have non-blocking architecture & wire-speed performance under fully loaded condition from day-1	
5	The Switch should have following L2 & L3 features from Day-1	
6	MAC Address Table size: At least 8000, support at least 256 static MAC	
7	Flow Control: IEEE 802.3x in full duplex, back pressure in half duplex & HoL blocking prevention	
8	Jumbo Frame Support (At least 10,000 bytes)	
9	IGMP v1 v2 with at least 256 IGMP snooping groups, Per VLAN IGMP Snooping, port based IGMP snooping fast leave.	
10	LLDP, LLDP-MED, IPv6 Neighbor Discovery.	
11	IEEE802.1D STP, 802.1w RSTP, 802.1s MSTP with at least 32 MSTP instances support, Root guard or equivalent feature.	
12	The switch should be able to avoid the loop occurring in a single port connected to an unmanaged switch/hub by shutting down the corresponding port or corresponding VLAN	
13	IEEE 802.3ad Link Aggregation with at least 8 ports per groups & 4 groups per switch, Port mirroring for Tx/Rx/Both. One-to-One mode, Many-to-one mode	
14	IEEE 802.1Q VLAN, at least 256 Static VLANs, auto Voice-VLAN, asymmetric VLAN, auto surveillance VLAN	
15	MLD snooping v1 & v2 with at least 256 snooping groups, At least 4 IP interfaces (IPv4 & IPv6)	
16	At least 124 IPv4 static route entries & at least 50 IPv6 static route entries	
17	The switch should have 802.1p support with 8 queues per port. Support strict & WRR queue handling technique.	

18	The switch should have QoS based of DSCP, MAC address, EtherType, IP address, Protocol type, ToS, IP preference, IPv6 Traffic Class, TCP/UDP port	
19	The switch should have Port-based ingress & egress bandwidth control with minimum granularity of at least 16Kbps	
20	The switch should have the following security features from Day-1: SSLv3, SSL IPv6, Broadcast, Multicast & Unicast storm control, port security feature with at least 64 MAC per port, traffic segmentation, ARP spoofing prevention, IEEE 802.1x, MD5 Authentication, Dynamic VLAN assignment, DHCP server screening, RADIUS server, Binding of IP address with MAC address & interface.	
21	The switch should have cable diagnostic feature to check the status of connected RJ45 cables.	
22	The switch should have feature to protect the CPU from protocol control packet attack.	
23	The switch should have Energy saving green technology based on cable length & link status. IEEE 802.3az, system hibernation	
24	The switch should be 1U height	
25	OEM should have valid ISO 9001, ISO 14001 & ISO 45001 for design & development for wired & wireless networking products.	
26	OEM should have own Service Centre in NCR for quick product replacement and repair	
	Physical / Environment	
27	AC Input - 100 to 240 VAC 50/60 Hz internal universal power supply	
28	Maximum Power Consumption - 251.3 W (PoE on) • 26.3 W (PoE off)	
29	Maximum PoE Budget - 220 W	
30	Standby Power Consumption - 100 V: 24 W/ • 240 V: 21.9 W	
31	Operating Temperature - -5 to 50 °C (23 to 122 °F)	
32	Storage Temperature - -20 to 70 °C (-4 to 158 °F)	
33	Operating Humidity - 0% to 95% non-condensing	
34	Storage Humidity - 0% to 95% non-condensing	
35	Dimensions (L x W x H) – OEM Specified	
36	Weight – OEM Specified	