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Ref: KNH/SCM/ADM.43

Date: 20<sup>th</sup> June, 2024

**RE: ADDENDUM TO TENDER NO: KNH/T/160/2023-2024 - SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF CCTV CAMERA SYSTEM.**

**To: ALL BIDDERS**

Pursuant to the Public Procurement and Asset Disposal Act 2015 section 75 and its attendant Regulations 2020 and Clause 10.1 on Amendment of Tender Documents, the Hospital wishes to make the following amendments/clarifications;

**1. TENDER SECURITY AMENDED TO;**

MR 13.	Tender Security	Attach Tender Security of <b>Kshs.150,000/=</b> valid for 149 days from the date of tender opening
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**2. ADDITIONAL ITEMS**

The following items and their respective specifications have been added as shown below;

S/NO	DESCRIPTION	UNIT OF ISSUE	QTY	UNIT PRICE	TOTAL PRICE
1	48 Ports POE Switch (detailed specification attached below).	No.	4		
2	24 Ports POE Switch (detailed specification attached below).	No.	3		
3	CAT6A UTP Pure Copper Ethernet Cable 305M	Box	50		
4	12U Cabinet (Wall mount) (detailed specification attached below).	No.	7		
5	48 Ports patch panel	No.	7		
6	Cable Manager	No.	7		
7	Display Screens (detailed specification attached below).	No.	4		
8	PTZ Camera (detailed specification attached below).	No.	1		
9	Centralized Professional Management Software (detailed specification attached below).	No.	1		

10	Smart- UPS Rackmount (detailed specification attached below)	No.	7		
11	Installation	Lot			
12	Training	Lot			

### 1. ACCESS SWITCH 48P - POE

S/No	Description and Requirement	Specification	Bidders' response to the bid should clearly explain how the proposed solution meets the specifications in this tender (Attach the relevant and highlighted brochure)
1	Downlinks total 10/100/1000 or copper ports PoE+	48 ports full PoE+	
2	Uplink configuration	4x 10G fixed uplinks	
3	Default primary AC power supply	PWR-C5-1KWAC	
4	Fans	Fixed redundant	
5	Software	Network Essentials	
6	Virtual Networks	1	
7	Stacking bandwidth	80Gbps	
8	Total number of MAC addresses	16,000	
9	Total number of IPv4 routes (ARP plus learned routes)	11,000 (8,000 direct routes and 3,000 indirect routes)	
10	IPv4 routing entries	3,000	
11	IPv6 routing entries	1,500	
12	Multicast routing scale	1,000	
13	QoS scale entries	1,000	
14	ACL scale entries	1,500	
15	Packet buffer per SKU	6 MB buffers	
16	Flexible NetFlow (FNF) entries	16,000 flows	
17	DRAM	2 GB	
18	Flash	4 GB	
19	VLAN IDs	1024	
20	Total Switched Virtual Interfaces (SVIs)	512	
21	Jumbo frames	9198 bytes	
22	Switching capacity	176 Gbps	
23	Forwarding rate	261.9 Mpps	
24	Mean time between failures (hours)	346,270	
25	Warranty (1) One Year		

## 2. Network Cabinet

S/No	Description and Requirement	Specification	Bidders' response to the bid should clearly explain how the proposed solution meets the specifications in this tender (Attach the relevant and highlighted brochure)
1	Dimensions	12U 19", 590x600x440 mm, (H x W x D), 370mm working depth, (distance from bars to rear panel)	
2	Type	wall-mounted, welded body, removable sides	
3	Door	4mm toughened glass	
4	Cable entry	Top + Bottom	
5	Fan openings	Yes	
6	Additional equipment	3 sets of fixing screws in the holes of the supporting rails and a set of four screws for wall mounting	

## 3. Centralized Professional Management Software Specifications

S/No	Description and Requirement	Specification	Bidders' response to the bid should clearly explain how the proposed solution meets the specifications in this tender (Attach the relevant and highlighted brochure)
<b>General</b>			
	Cameras	Centralized Deployment: 3,000 <sup>s</sup> Distributed Deployment: 10,000 <sup>v</sup> Central System (RSM): 100,000 <sup>o</sup>	
	Managed Device IP Addresses <i>*Including Encoding Devices, Access Control Devices, Security Control Devices, and Remote Sites</i>	Centralized Deployment: 1,024 <sup>s</sup> Distributed Deployment: 2,048 <sup>v</sup>	
	Alarm Inputs (Including Alarm Inputs)	3,000	

	of Security Control Devices)		
	Alarm Outputs	3000	
	Dock Stations	1,500	
	Alarm Inputs of Security Control Devices	2,048	
	DS-5600 Series Face Recognition Terminals When Applied with Hikvision Turnstiles	32	
	Facial Recognition Servers	64	
	Recording Servers	64	
	Streaming Servers	64	
	ANPR Cameras	3000	
	People Counting Cameras	Recommended: 300	
	Heat Map Cameras	Recommended: 70	
	Thermal Cameras	Recommended: 20+	
	Queue Management Cameras	Recommended: 300	
	Areas	3,000	
	Cameras per Area	256	
	Alarm Inputs per Area	256	
	Alarm Outputs per Area	256	
<b>Event &amp; Alarm</b>			
	Event and Alarm Rules	Centralized Deployment: 3,000 Distributed Deployment: 10,000 Central System (RSM): 10,000	
	Storage of Events or Alarms without Pictures	Centralized Deployment: 100/s Distributed Deployment: 1000/s	
	Events or Alarms Sent to Clients <i>*The clients include Control Clients and Mobile Clients.</i>	120/s 100 Clients/s	
	Arming Schedule Templates	200	
<b>Picture</b>			
	Picture Storage <i>*Including event/ alarm pictures, face pictures, and vehicle pictures.</i>	20/s (Stored in SYS Server) 120/s (Stored in Recording Server)	
<b>Reports</b>			



	Regular Report Rules	100	
	Event or Alarm Rules in One Event/Alarm Report Rule	32	
	Records in One Sent Report	10,000 or 10 MB	
	Resources Selected for One Report <i>*With this limitation, you can generate a neat and clear report via the Control Client and it costs less time.</i>	<ul style="list-style-type: none"> <li>● 20 People Counting Cameras for One People Counting Report</li> <li>● 20 ANPR Cameras for One Vehicle Analysis Report</li> <li>● 20 Queues for One Queue Analysis Report</li> <li>● 20 Presets for One Temperature Report</li> </ul>	
<b>Data Storage</b>			
	Data Retention Period	Stored for 3 Years	
	People Counting	5 million	
	Heat Map	0.25 million	
	ANPR	60 million	
	Events	60 million	
	Alarms	60 million	
	Access Records	1.4 billion	
	Attendance Records	55 million	
	Operation Logs	5 million	
	Service Information Logs	5 million	
	Service Error Logs	5 million	
	Recording Tags	60 million	
<b>Users &amp; Roles</b>			
	Concurrent Accesses via Web Clients, Control Clients, and OpenSDK Clients	100	
	Concurrent Accesses via Mobile Clients and OpenSDK Clients	100	
	Users	3,000	
	Roles	3,000	
<b>Vehicle (ANPR)</b>			
	Vehicle Lists	100	
	Vehicles per Vehicle List	5,000	
	Under Vehicle Surveillance Systems	4	
	Vehicle Undercarriage Pictures	3,000	

<b>Face Comparison</b>		
	Persons with Profiles for Face Comparison	1,000,000
	Face Comparison Groups	64
	Persons in One Face Comparison Group	1,000,000
<b>Access Control</b>		
	Persons with Credentials for Access Control	50,000
	Cards	250,000
	Fingerprints	200,000
	Access Points	512
	Access Groups	64
	Access Levels	128
	Access Schedules	32
<b>Time &amp; Attendance</b>		
	Persons for Time and Attendance	10,000
	Attendance Groups	64
	Shift Schedules	128
<b>Smart Wall</b>		
	Decoding Devices	32
	Smart Walls	32
	Views	1,000
	View Groups	100
	Views Auto-Switched Simultaneously	32
<b>Streaming Server's Maximum Performance</b>		
	Video Input Bandwidth per Streaming Server	300 × 2 Mbps
	Video Output Bandwidth per Streaming Server	300 × 2 Mbps
Warranty - One (1) Year		

#### 4. Display Screens - 55 inch.

S/No	Specification	Bidders' response to the bid should clearly explain how the proposed solution meets the specifications in this tender (Attach the relevant and highlighted brochure)
1	4K signal input, auto loop up to 30 screens with HDMI/DP interfaces	
2	Switching between three picture modes: Monitoring, Meeting, and Movie	

3	Factory calibration for color and brightness uniformity	
4	Direct-lit LED backlight with uniform brightness and no boundary shadows	
5	3840 × 2160 resolution, 178° viewing angle	
6	Ultra-narrow 3.5 mm bezel design Anti-glare, high definition, high brightness, high color gamut, and vivid images with rich colors	
7	Stable and 24-hour continuous working	
8	Metal casing for preventing from radiation and magnetic & electric field interference	
9	<b>Wall-mount and modular brackets available to meet various installation requirements</b>	
10	LAN & USB Ports, Supports WLAN	
11	Power supply (Internal), AC 100 - 240V, On Mode - 99W(On)	
12	Accessories: Remote Control, Power cord, HDIM Cable (10 Meters)	
13	Warranty - One (1) Year	

5. Smart- UPS Rackmount.

S/No	Description and Requirement	Specification	Bidders' response to the bid should clearly explain how the proposed solution meets the specifications in this tender (Attach the relevant and highlighted brochure)
1	Output power capacity	700 Watts / 1.0kVA	
2	Rack Height	2U	
3	Output Connections	(2) IEC Jumpers (Battery Backup) (4) IEC 320 C13 (Battery Backup)	
4	Nominal Output Voltage	230V	
5	Nominal Input Voltage	230V	
6	Energy meter	Provides actual kilowatt hours of usage for energy conscious users.	
7	Green mode	Patent-pending operating mode that bypasses unused electrical components in good power conditions to achieve very high operating efficiency without sacrificing any protection.	
8	Intuitive LCD interface	Provides clear and accurate information in multiple languages with the ability to configure the UPS locally with easy to use navigation keys.	
9	Pure sine wave output on battery	Simulates utility power to provide the highest degree of compatibility for active PFC	



		(power factor corrected) servers and sensitive electronics.	
10	SmartConnect	Innovative, easy to use remote monitoring feature that provides automatic notifications, firmware updates, and advanced support services.	
11	Warranty	One (1) Year	

#### 6. ACCESS SWITCH 24P - POE

S/No	Description and Requirement	Specification	Bidders' response to the bid should clearly explain how the proposed solution meets the specifications in this tender (Attach the relevant and highlighted brochure)
1	Downlinks total 10/100/1000 or PoE+ copper ports	24 ports full PoE+	
2	Uplink configuration	4x 10G fixed uplinks	
3	Default primary AC power supply	PWR-C5-600WAC	
4	Fans	Fixed redundant	
5	Software	Network Essentials	
6	Virtual Networks	1	
7	Stacking bandwidth	80Gbps	
8	Total number of MAC addresses	16,000	
9	Total number of IPv4 routes (ARP plus learned routes)	11,000 (8,000 direct routes and 3,000 indirect routes)	
10	IPv4 routing entries	3,000	
11	IPv6 routing entries	1,500	
12	Multicast routing scale	1,000	
13	QoS scale entries	1,000	
14	ACL scale entries	1,500	
15	Packet buffer per SKU	6 MB buffers	
16	Flexible NetFlow (FNF) entries	16,000 flows	
17	DRAM	2 GB	
18	Flash	4 GB	
19	VLAN IDs	4094	
20	Total Switched Virtual Interfaces (SVIs)	512	
21	Jumbo frames	9198 bytes	
22	Switching capacity	128 Gbps	
23	Forwarding rate	190.4 Mpps	
24	Mean time between failures (hours)	390,310	
25	Warranty (1) One Year		



## 7. PTZ CCTV CAMERA

S/No	Description Requirement and	Specification	Bidders' response to the bid should clearly explain how the proposed solution meets the specifications in this tender (Attach the relevant and highlighted brochure)
<b>Camera</b>			
	Image Sensor	1/2.8" progressive scan CMOS	
	Max. Resolution	2560 × 1440	
	Shutter Speed	1 s to 1/30,000 s	
	Day & Night	IR cut filter	
	Zoom	25x optical, 16x digital	
<b>Lens</b>			
	FOV	Horizontal field of view: 55° to 2.4° (wide-tele), Vertical field of view: 33° to 1.4° (wide-tele), Diagonal field of view: 61.5° to 2.8° (wide-tele)	
	Focal Length	4.8 mm to 120 mm	
	Zoom Speed	Approx. 3.6 s	
	Aperture	Max. F1.6	
<b>Illuminator</b>			
	Supplement Light Type	IR	
	Supplement Light Range	IR Distance: up to 100 m	
<b>PTZ</b>			
	Proportional Pan	Yes	
	Park Action	Preset, pattern scan, patrol scan, auto scan, tilt scan, random scan, frame scan, panorama scan	
	Movement Range (Pan)	360°	
	Movement Range (Tilt)	-15° to 90° (auto flip)	
	Pan Speed	pan speed: configurable from 0.1° to 80° /s; preset speed: 80° /s	

	Tilt Speed	tilt speed: configurable from 0.1° to 80°/s, preset speed 80°/s	
	Presets	300	
	Patrol Scan	8 patrols, up to 32 presets for each patrol	
	Power-off Memory	Yes	
	3D Positioning	Yes	
<b>Video</b>			
	Video Compression	Main stream: H.265+/H.265/H.264+/H.264 Sub-stream: H.265/H.264/MJPEG Third stream: H.265/H.264/MJPEG	
	Region of Interest (ROI)	8 fixed regions for each stream	
	Main Stream	50 Hz: 25 fps (2560 × 1440, 1920 × 1080, 1280 × 960, 1280 × 720) 60 Hz: 30 fps (2560 × 1440, 1920 × 1080, 1280 × 960, 1280 × 720)	
	Sub-Stream	50 Hz: 25 fps (704 × 576, 640 × 480, 352 × 288) 60 Hz: 30 fps (704 × 480, 640 × 480, 352 × 240)	
	Video Bit Rate	32 kbps to 16384 kbps	
<b>Audio</b>			
	Audio Compression	G.711/G.722.1/G.726/MP2L2/PCM	
	Audio Bit Rate	64 Kbps (G.711)/16 Kbps (G.722.1)/16 Kbps (G.726)/32-192 Kbps (MP2L2)	
	Environment Noise Filtering	Yes	
<b>Network</b>			
	Protocols	IPv4/Ipv6, HTTP, HTTPS, 802.1x, QoS, FTP, SMTP, UpnP, SNMP, DNS, DDNS, NTP, RTSP, RTCP, RTP, TCP/IP, UDP, IGMP, ICMP, DHCP, PPPoE, Bonjour, Websocket, Websockets	
	API	Open Network Video Interface (Version 19.12, Profile S, Profile G, Profile T), ISAPI, SDK, ISUP	
	Simultaneous Live View	Up to 20 channels	

	User/Host	Up to 32 users, 3 user levels: administrator, operator, and user	
<b>Image</b>			
	Image Parameters Switch	yes	
	Image Settings	Saturation, brightness, contrast, sharpness, gain, and white balance adjustable by client software or web browser	
	Day/Night Switch	Day, Night, Auto, Schedule	
	Wide Dynamic Range (WDR)	120 dB	
	Image Stabilization	EIS	
<b>Interface</b>			
	Ethernet Interface	1 RJ45 10M/100M self-adaptive Ethernet po	
	On-board Storage	Built-in memory card slot, support microSD/SDHC/SDXC card, up to 256 GB	
	Audio	1 input (line in), max. Input amplitude: 2-2.4 vpp, input impedance: 1 k $\Omega$ $\pm$ 10%; 1 output (line out), line level, output impedance: 600 $\Omega$	
	Reset	Yes	
<b>Deep Learning Function</b>			
	Face Capture	Detects up to 5 faces simultaneously. Supports detecting, capturing, grading, selecting of face in motion, and output the best face picture of the face	
	Perimeter Protection	Line crossing, intrusion, region entrance, region exiting Support alarm triggering by specified target types (human and vehicle)	
<b>General</b>			
	Power	12 VDC, max. 18 W, including max. 1.6 W for heater and 9 W for IR; PoE (802.3at)	



	Operating Condition	-30 °C to 65 °C (-22 °F to 149 °F). Humidity 90% or less (non-condensing)	
	Material	ADC12	
	Weight	Approx. 2 kg (4.41 lb.)	
	Warranty (1) One Year		

**Replace specification for Bullet Camera 2Mp with the following specification:**

**1. Bullet Camera 4Mps Specification.**

S/No	Description Requirement and	Specification	Bidders' response to the bid should clearly explain how the proposed solution meets the specifications in this tender (Attach the relevant and highlighted brochure)
1	Image Sensor	1/3" Progressive Scan CMOS	
	Min. Illumination	Color: 0.01 Lux @ (F1.2, AGC ON), 0.028 Lux @ (F2.0, AGC ON), 0 Lux with IR	
	Shutter Speed	1/3 s to 1/100,000 s	
	Slow Shutter	Yes	
	Auto-Iris	No	
	Day & Night	No IR Cut Filter	
2	Focal length	3.6/6/8/12 mm	
	Aperture	F1.2	
	Focus	Fixed	
	FOV	3.6 mm: horizontal FOV: 78°, vertical FOV: 42°, diagonal FOV: 93° 6 mm: horizontal FOV: 48°, vertical FOV: 27°, diagonal FOV: 54° 8 mm: horizontal FOV: 37°, vertical FOV: 21°, diagonal FOV: 44° 12mm: optional	
	Lens Mount	M12	
3	IR Range	Up to 50 m	
	Wavelength	850nm	
	Video Compression	Main stream: H.265/H.264 Sub-stream: H.265/H.264/MJPEG Third stream: H.265/H.264	
	H.264 Type	Main Profile/High Profile	
	H.264+	Main stream and sub-stream support	
	H.265 Type	Main Profile	
	H.265+	Main stream and sub-stream support	
	Video Bit Rate	32 Kbps to 16 Mbps	
4	Max. Resolution	2560 × 1440	
	Main Stream	25fps (2560 × 1440, 2304 × 1296, 1920 × 1080)	
	Sub-Stream	15fps (1280 × 720, 640 × 480, 640 × 360, 320 × 240)	
	Image Enhancement	BLC/HLC/3D DNR	
	Image Setting	Rotate mode, saturation, brightness, contrast, sharpness and White Balance	

		adjustable by client software or web browser, Support Export/Import configuration file	
	Day/Night Switch	Auto/Schedule	
5	Alarm Trigger	Motion detection, video tampering, network disconnected, IP address conflict, illegal login, HDD full, HDD error	
	Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UpnP™, SMTP, SNMP, IGMP, 802.1X, QoS, Ipv6, Bonjour	
	General Function	One-key reset, anti-flicker, three streams, heartbeat, mirror, password protection, privacy mask, watermark, IP address filter	
	API	ONVIF (PROFILE S, PROFILE G), ISAPI	
	Simultaneous Live View	Up to 6 channels	
6	Communication Interface	1 RJ45 10M/100M self-adaptive Ethernet port	
	SVC	H.264 and H.265 encoding	
	Reset Button	Yes	
7	Power Supply	12 VDC ± 25%, PoE (802.3af, class 3)	
	Protection Level	IP67/IK10 TVS 2000V Lightning Protection, Surge Protection and Voltage Transient Protection	
	Operating Conditions	-30 °C to +60 °C (-22 °F to +140 °F), Humidity 95% or less (non-condensing)	
8	Warranty	One (1) Year	

**2. NVR SPECIFICATIONS HAVE BEEN AMENDED TO INCLUDE THE FOLLOWING;**

S/No	Description and Requirement	Specification	Bidders' response to the bid should clearly explain how the proposed solution meets the specifications in this tender (Attach the relevant and highlighted brochure)
<b>HDD</b>			
	Interface	24 SATA interfaces supporting hot-plug	
	Capacity	Up to 10 TB for each HDD	
	Storage extension	1 × eSATA interface, 2 × mini SAS interface (optional)	

Please note that the tender closing date has been extended to 2<sup>nd</sup> July 2024 at 10:00am.

**Rose M. Njoroge, OGW.  
FOR: CHIEF EXECUTIVE OFFICER**

