

	National Oil Corporation of Kenya 1st ADDENDUM – TENDER FOR SUPPLY, INSTALLATION, TESTING, COMMISSIONING AND MAINTENANCE OF CCTV AT KAWI HOUSE	Ref No. NOCK/PRC/03(1308)2017-2018
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Please refer to the Tender for Supply, Installation, Testing, Commissioning and Maintenance of CCTV at Kawi House -**Ref No. NOCK/PRC/03(1308)2017-2018** advertised on October 24, 2017 and the pre-bid meeting held on November 1, 2017.

We hereby issue this 1st addendum, giving clarification and amending the tender document as below:

No.	Bidder's Query/Clarification Request (quoted as asked)	National Oil Response
1.	What type of cabling do you currently have? Does this cabling extend up to the point of installation of the cameras?	National Oil clarifies that the site has existing network infrastructure in place. The cables extend up to the point of installation of the cameras however, bidders are encouraged to plan cable routes accordingly as per site survey conducted and to provide estimates for any additional works deemed necessary to complete the installation.
2.	Section 5 of the Bills of Quantities – CABLING AND TRANSMISSIONS mentions an RS485 cable what is this and how is it related to the CCTV? The same Section also talks about Access Control, there is no other mention of the Access Control anywhere not even in the Technical Specifications. Kindly clarify. How many Access Control Points (doors) are currently in existence?	The RS485 cable is networking cable used for transmission in access control systems. We currently do not have Access Control Systems installed at Kawi House however plans are underway for installation of an Access Control System.
3.	Do you have network switches? Who is providing the Network Switches?	We have existing Cisco 3650 and 2960 POE network switches with free ports.
4.	Do you have cabinets? What are the cabinet locations?	Yes we have cabinets in every wing, on every floor of the building, each interlinked with fiber backbone to the core switch.



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National Oil amendment to the tender



The evaluation criteria has been amended and the new evaluation criteria is as follows:

MANDATORY REQUIREMENTS

The tenderer shall provide the following mandatory requirements (failure to submit the mandatory requirements will lead to disqualification from the tender process preliminary evaluation)

i.	Copy of Certificate of Incorporation or Registration
ii.	A Copy of Current/Valid Tax Compliance Certificate issued by the Kenya Revenue Authority
iii.	National Construction Certification Category 6
iv.	Copy of current Communication Authority Kenya license for owning a frequency for purpose of communication
v.	Tender security of Kenya Shillings Five Hundred Thousand only (Kshs 500,000.00) in form of a bank guarantee from a bank licensed and operating in Kenya or a Bank recognized by the Central bank of Kenya or tender security from an Insurance Company duly recognized by the Public Procurement Regulatory Authority (formerly PPRA)
vi.	Duly filled Confidential Business Questionnaire (Section VII).
vii.	Duly filled Bidder's Declaration and Integrity Pact (Section VII).
viii.	Duly signed Site Visit Viewing Certificates (Section VII) as evidence of having attended the mandatory site survey(s) at National Oil Head Office, Kawi House
ix.	The bidder MUST provide a Partnership Letter showing their level of partnership with the respective manufacturer of their proposed solutions for Surveillance
x.	Provide a duly signed Manufacturer's Authorization Letter or a Dealership Certificate or letter where applicable. The bidder must be an authorized reseller of the solution they are providing.



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TECHNICAL EVALUATION CRITERIA

Item	Description	Bidder's Score	Max Score	Remarks
1	<p>Key Personnel The tenderer shall provide a minimum of the following key personnel with the following minimum qualification and experience: -</p> <p>i. <i>Project Manager – (1)</i> <i>Bachelor Degree in a relevant field of study from a recognized University with minimum five (5) years working experience in managing similar projects and relevant Project management certification .6 Mks</i></p> <p>ii. <i>Project Team Members - (2)</i> <i>Submit CV's of at least two (2) project team members.</i> <i>Minimum Relevant Diploma in related field of study from a recognized University/College with certifications with respect to the proposed solution with a minimum of two (2) years working experience in security industry. 4 Mks</i></p>		10	
2	<p>Experience: <i>Major contracts completed in the last five (5) years</i> <i>Contracts of similar to scope of works and magnitude (1mk each, max 5mks) OR</i> <i>Contracts of similar to scope of works and magnitude but of lower value than the one in consideration (0.5mk each, max 2.5 mks)</i></p>		5	



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3	Experience <i>Provide client reference where similar services have been successfully implemented within the last five (5) years. 5 Mks The value shall be at least Ksh 10,000,000.00. Provide proof in terms of Contracts, LPO'S or Completion Certificates including name (s) and address of contact person(s).</i>		5	
4	Financial Capability <i>i. Access to liquid assets Tenderer's capacity to have cash flow amount of at least Kenya Shillings Ten million (Kshs. 10,000,000) equivalent; by access to lines of credit, other financial resources such as bank statements or letter from the bank indicating the same. In case of joint venture all parties combined must meet requirement. 10 Mks</i>		10	
	<i>ii. Turnover Must have a minimum annual average turnover Kshs 15,000,000.00 over any three (3) year for the period. 3 Mks 2014/2015, 2015/2016, 2016/2017. Attach Financial Statement for the last three years</i>		5	



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	<p>iii. Compliance with schedule of requirements</p> <p><i>Bidders shall provide a schedule of compliance listing every sub clause of the technical requirements, with the words “complied” or “not complied” in line with the capabilities of the proposed solution. 5 Mks</i></p>		5	
	Sub – total (40 marks)		40	
5	<p>Major Equipment The tenderer’s equipment MUST on a minimum meet the below listed technical specifications/functionality</p>			
	<i>Equipment</i>	<i>Bidder’s Score</i>	<i>Mandatory Score</i>	<i>Remarks</i>
i.	<p>Dome Camera - 2688 x 1520 Resolution Day/night, compact dome, vandal-resistant, outdoor-ready and Built-in IR illumination. Multiple, individually configurable H.264, H.265 and Motion JPEG streams; max 4 MP resolution at 30 fps with WDR. Optimized bandwidth and storage reduction technology. Memory card slot for optional local video storage. Video motion detection and active tampering alarm. Power over Ethernet.</p>		10	



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ii.	360° Multisensor Camera - 4no. 1920 x 1080 Res Flexible multisensor fixed camera with four 1080p sensors. The lenses should allow adjustment to provide a 108° to 54° horizontal field of view for either a wide, panoramic view, or detailed, zoomed-in views. The lenses can be rotated to support vertically oriented scenes in Corridor Format. Supports individually configurable video streams from each camera head, as well as quad view streaming, enabling 4x 1080p resolution videos at 12.5/15 fps or 4x 720p resolution videos at full frame rate. Optimized bandwidth and storage reduction technology. PoE Class 2.		10	
iii.	Professional Recording and Video Management Software. Max 150 cams per site. 10 Simultaneous Viewing Clients. Only one professional server license CPRO-2001 is required per site, requires CPRO-1001 camera licenses for each third party camera		10	
iv.	Client Workstation, Compact Desktop Terminal with micro form factor to be used with recording servers. The terminal is to be preloaded with Video Management Software and all other necessary software e.g. Windows 10IoT. Includes three year hardware warranty and on-site hardware replacement service, international keyboard and mouse.		10	



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v.	64 Channel Network Video Recorder, rack server preloaded with Video Management Software, preconfigured settings and all other necessary software e.g. Windows 10IoT. The server should come with licenses for 64 IP channels, three year hardware warranty and on-site hardware replacement service. With minimum 24TB for 60days video storage.		10	
	Sub – total (60 marks)		60	
	Total Technical Score (Ts)		100	
	To be considered technically responsive for supply of furniture the tenderer should score a minimum of 75 points out of the 100points above.			

AWARD OF CONTRACT

The award of the tender for Supply, Installation, Testing, Commissioning and Maintenance of CCTV at Kawi House will be to the tenderer that successfully passes the technical evaluation and has quoted overall best price (least price) for all the listed requirements.



SECTION VI – TECHNICAL SPECIFICATIONS

5: SPECIFIC SPECIFICATIONS FOR EQUIPMENT INSTALLATION

Dome Camera - 2688 x 1520 Resolution

The camera shall be equipped with an M12 mount lens, with fixed iris and fixed focus.

The camera shall provide a manual 3-axis (pan/tilt/rotation) positioning to allow adjustment for optimum camera rotation and placement.

The camera shall provide compatibility with H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles as well as H.265 (MPEG-H Part 2/HEVC) Main Profile.

The camera shall support resolutions up to 4 MP (2688x1520)

The camera shall be equipped with built-in IR illumination.

The camera shall be manufactured with an repaintable IP66-, NEMA 250 Type 4X, and IK08-rated, ASA polymer casing.

The camera shall for its H.264 implementation support scene adaptive bitrate control with automatic dynamic ROI to reduce bitrate in unprioritized regions in order to lowering bandwidth and storage requirements.

The camera shall for its H.265 implementation support scene adaptive bitrate control with automatic dynamic ROI to reduce bitrate in unprioritized regions in order to lowering bandwidth and storage requirements.

The specified unit shall be backed by a minimum of three years manufacturer warranty.



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The manufacturer shall provide the option of extended warranty for the unit. The optional extended warranty shall be available for a total warranty period of maximum five years.

The specified unit shall be PVC-free.

The contractor or designated subcontractor shall submit credentials of completed manufacturer certification, verified by a third party organization, as proof of the knowledge.

The unit shall be manufactured by a company that have signed and support the UN Global Compact initiative as defined by United Nations <https://www.unglobalcompact.org/>

Image sensor	1/3" progressive scan RGB CMOS
Lens	M12 mount, Fixed iris, Fixed focus 2.4 mm, F2.2 Horizontal field of view: 130° Vertical field of view: 73°
Day and night	Automatically removable infrared-cut filter
Minimum illumination	Color: 0.3 lux at 50 IRE, F2.2 B/W: 0.06 lux at 50 IRE, F2.2 0 lux with IR illumination on
Shutter time	1/31500 s to 1/5 s
Camera angle adjustment	Pan: $\pm 180^\circ$ Tilt: 0° to 60° Rotation: $\pm 95^\circ$



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Video compression	H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles H.265 (MPEG-H Part 2/HEVC) Main Profile Motion JPEG
Resolution	2688x1520 to 320x240
Frame rate	Up to 25/30 fps with power line frequency 50/60 Hz
Video streaming	Multiple, individually configurable streams in H.264, H.265 and Motion JPEG Controllable frame rate and bandwidth VBR/MBR H.264
Multi-view streaming	Up to 2 individually cropped out view areas in full frame rate
Image settings	Compression, Color, Brightness, Sharpness, Contrast, White balance, Exposure control, WDR: up to 100 dB depending on scene. Rotation: 0°, 90°, 180°, 270° including corridor format, Text and image overlay, Privacy masks, Mirroring of images
Pan/Tilt/Zoom	Digital PTZ
Security	Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, digest authentication, user access log, centralized certificate management
Supported protocols	IPv4/v6, HTTP, HTTPS, SSL/TLS, QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, Bonjour, UPnP™, SNMP v1/v2c/v3 (MIB-II), DNS,



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	DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS, SSH, LLDP
Application Programming Interface	Open API for software integration ONVIF® Profiles S and G
Analytics	Motion Detection, active tampering alarm Support for installation of third-party applications
Event triggers	Analytics, edge storage events, virtual inputs through API
Event actions	File upload: FTP, SFTP, HTTP, HTTPS, network share, email Notification: email, HTTP, HTTPS, TCP, SNMP trap Video recording to edge storage Send video clip Pre- and post-alarm video buffering Overlay text
Data streaming	Event data
Built-in installation aids	Pixel counter
Casing	IP66-, NEMA 250 Type 4X, and IK08-rated, ASA polymer casing Encapsulated electronics, Captive screws Color: White NCS S 1002-B
Sustainability	PVC free
Memory	512 MB RAM, 256 MB Flash



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Power	Power over Ethernet (PoE) IEEE 802.3af/802.3at Type I Class 3 Typical 5.1 W, max 7.9 W
Connectors	RJ45 10BASE-T/100BASE-TX PoE
IR illumination	850 nm IR LEDs. Range of reach 15 m (50 ft)
Storage	Support for microSD/microSDHC/microSDXC card Support for SD card encryption Support for recording to network-attached storage (NAS)
Operating conditions	-30°C to 50°C (-22 °F to 122 °F) Humidity 10–100% RH (condensing)
Approvals	EMC EN 55022 Class B, EN 55024, IEC 62471, EN 61000-6-1, EN 61000-6-2, FCC Part 15 Subpart B Class B, ICES-003 Class B, VCCI Class B, RCM AS/NZS CISPR 22 Class B, KCC KN32 Class A, KN35 Environment IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-78, IEC 60068-2-14, IEC 60068-2-6, IEC 60068-2-27, IEC/EN 62262 IK08, IEC/EN 60529 IP66, NEMA 250 Type 4X, IEC 60721-3-4 Class 4M3 Safety



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IEC/EN/UL 60950-1, IEC/EN/UL 60950-22

Weight

370 g (0.81 lb)

Dimensions

Height: 94 mm (3.7 in)
ø: 101 mm (4.0 in)

Languages

English, German, French, Spanish, Italian, Russian, Simplified Chinese,
Japanese, Korean, Portuguese, Traditional Chinese

Installation, Warranty & Recognitions

The specified unit shall be backed by a minimum of three years manufacturer warranty.

The manufacturer shall provide the option of extended warranty for the camera. The optional extended warranty shall be available in two-year extension blocks for a total warranty period of maximum five years.

The contractor or designated subcontractor shall submit credentials of completed manufacturer certification, verified by a third party organization, as proof of the knowledge.

All equipment shall be tested and configured in accordance with instructions provided by the manufacturer prior to installation.

All firmware found in products shall be the latest and most up-to-date provided by the manufacturer, or of a version as specified by the provider of the Video Management Application (VMA) or Network Video Recorder (NVR).

Standards & Regulations



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The specified unit shall meet product safety standards as defined in IEC/EN/UL 60950-1

The specified unit shall meet product safety standards as defined in IEC/EN/UL 60950-22

The specified unit shall be manufactured in accordance with ISO 14001.

The specified unit shall be compliant with the EU directives 2011/65/EU (RoHS) and 2012/19/EU (WEEE).

The specified unit shall be compliant with the EU regulation 1907/2006 (REACH).

The specified unit shall be PVC-free in accordance with IEC 61249-2-21.

The camera shall meet relevant parts of SMPTE 296M (HDTV 720p)

The camera shall meet relevant parts of SMPTE 274M (HDTV 1080p)

The camera shall meet ISO/IEC 14496-10 Advanced Video Coding (H.264)

The specified unit shall carry the following EMC approvals:

- EN 55022 Class B
- EN 55024
- FCC Part 15 - Subpart A + B
- VCCI Class B
- RCM AS/NZS CISPR 22 Class B
- ICES-003 Class B
- KCC KN32 Class B
- KN35



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The camera shall meet the following mechanical environmental standards:

- IEC/EN 60529 IP66 (Ingress protection)
- NEMA 250 Type 4X
- IEC/EN 62262 IK09
- IEC 60068-2
- IEC 60721-4-3 Class 4M3

The camera shall meet the following railway environmental standards:

- EN 50121-4
- IEC 62236-4

The camera shall meet the following standards:

- IEEE 802.3af/802.3at (Power over Ethernet)
- IEEE 802.1X (Authentication)
- IPv4 (RFC 791)
- IPv6 (RFC 2460)
- QoS – DiffServ (RFC 2475)

Mechanics & environmental

The camera shall be manufactured with an IP66-, NEMA 4X- and IK09-rated Die-casted aluminum casing.

The camera shall operate in a temperature range of -30°C to +60°C (-22°F to +140°F).

The camera shall operate in a humidity range of 10-100% RH (condensing).

Sensors & optics



The camera shall be equipped with four progressive scan sensor.

The camera shall provide images down to 0.3 lux in color.

The camera shall provide flexible positioning of four varifocal camera heads.

The camera shall provide the following field of view:

- 4x 1080p
 - Horizontal: 108° - 54°
 - Vertical: 57° - 30°
- 4x 720p
 - Horizontal: 67° - 36°
 - Vertical: 37° - 20°

Image Control

The unit shall incorporate Automatic and Manual White Balance.

The camera shall incorporate Wide Dynamic Range – dynamic contrast.

The camera shall incorporate an electronic shutter operating in the range of:

- 720p: 1/28000 s to 2 s
- 1080p: 1/22500 s to 2 s

The camera shall incorporate capture mode with the following settings:

- HDTV 1080p 12.5/15 fps
- HDTV 720p 25/30 fps



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The camera shall incorporate a function for optimization of low light behavior.

The camera shall allow for rotation of the image in steps of 90°.

The camera shall incorporate local contrast functionality.

Video

The camera shall be designed to provide 4x video streams in HDTV 1080p (1920x1080) at up to 15 frames per second (60Hz mode) or 12.5 frames per second (50Hz mode) using H.264 or Motion JPEG.

The camera shall be designed to provide 4x video streams in HDTV 720p (1280x720) at up to 30 frames per second (60Hz mode) or 25 frames per second (50Hz mode) using H.264 or Motion JPEG.

The camera shall be designed to provide quad view in resolution up to 1920x1440.

The camera shall support H.264 Baseline, Main and High Profile.

The H.264 implementation shall include both unicast and multicast functionality and support Constant Bit Rate (CBR) as well as Variable Bit Rate (VBR).

The camera shall support H.264 with automatic scene adaptive bitrate control.

The camera shall for its H.264 implementation support scene adaptive bitrate control with automatic dynamic ROI to reduce bitrate in unprioritized regions in order to lowering bandwidth and storage requirements.

Connectors

The camera shall be equipped with a RJ45 10BASE-T/100BASE-TX PoE Ethernet port.



Pan Tilt functionality

The camera shall provide $\pm 90^\circ$ Pan

The camera shall provide $28^\circ - 92^\circ$ Tilt

The camera shall provide $\pm 90^\circ$ Rotate

Event functionality

The camera shall be equipped with an integrated event functionality, which can be triggered by:

- Video Motion Detection
- Live Stream Accessed
- Camera tampering
- Manual Trigger/Virtual Inputs
- Embedded third party applications
- Edge storage disruption detection

The cameras response to a triggered event shall include:

- Send notification, using HTTP, HTTPS, TCP, SNMP trap or email
- Send images, using FTP, HTTP, HTTPS, network share or email
- Send video clip, using FTP, HTTP, HTTPS, network share or email
- Recording to local storage and/or network attached storage
- Overlay Text

Storage



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The camera shall be equipped with a video buffer for saving pre- and post-alarm images and shall have a microSD-card slot to support local storage of video.

The camera shall support recording to network attached storage.

Other functionality

The camera shall include a customizable pixel counter functionality, identifying the size of objects in number of pixels.

The camera shall provide text overlay ability, including date and time.

The camera shall have the ability to apply a graphical image as an overlay image in the video stream.

The camera shall provide the ability to apply privacy masks to the image.

The camera shall provide a function for altering the language of the user interface, and shall include support for at least:

- Brazilian Portuguese
- French
- German
- Italian
- Japanese
- Korean
- Russian
- Simplified Chinese
- Traditional Chinese
- Spanish

Network functionality



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The camera shall support both static IP addresses and addresses from a DHCP-server.

The camera shall support both IPv4 and IPv6.

The camera shall incorporate support for Quality of Service (QoS).

The camera shall incorporate support for Bonjour.

To secure access to the unit as well as provided content, the unit shall support HTTPS, SSL/TLS and IEEE 802.1X authentication.

The camera shall provide centralized certificate management, with both pre-installed CA certificates and the ability to upload additional CA certificates. The certificates shall be signed by an organization providing digital trust services.

The camera shall support IP address filtering and include at least three different levels of password security.

The camera shall support time synchronization via NTP server.

Power

Power over Ethernet IEEE 802.3af/802.3at Type 1 Class 2

Maintenance & service

The camera shall provide a log file, containing information about all users connecting to the unit since last restart. The file shall include information about connecting IP address and the time of connecting.



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The camera shall be monitored by a Watchdog functionality, which shall automatically re-initiate processes or restart the unit if a malfunction is detected.

The camera shall send a notification when the unit has re-booted and all services are initialized.

API & applications

The unit shall contain a built-in web server making video and configuration available in a standard browser environment using HTTP.

The camera shall be fully supported by open and published API (Application Programmers Interface) providing necessary information for integration of functionality into third party applications.

Cameras shall comply with relevant ONVIF profile as defined by the ONVIF Organization.

Network Video Recorder system.

Installation, Warranty & Recognitions

The video management server shall be backed by a minimum of three years' manufacturer warranty and shall be backed by free support within warranty period.

The hardware shall be backed by onsite support for hardware related faults with a 4h response time.

The contractor or designated subcontractor shall submit credentials of completed manufacturer certification, verified by a third party organization, as proof of the knowledge.



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All equipment shall be tested and configured in accordance with instructions provided by the manufacturer prior to installation.

Standards & Regulations

The video management server shall meet product safety standards as defined in IEC/EN/UL 60950-1

The video management server shall be manufactured in accordance with ISO 14001.

The video management system shall support relevant parts of SMPTE 296M (HDTV 720p).

The video management system shall support relevant parts of SMPTE 274M (HDTV 1080p).

The video management system shall support relevant parts of SMPTE ST 2036-1 (UHDTV).

The video management system shall support ISO/IEC 14496-10 Advanced Video Coding (H.264).

The specified video management system shall meet relevant parts of the following interoperability standards:

- Support video from IEC 62676-2-3 conformant devices
- Support video from ONVIF Profile S conformant devices

Mechanics & environmental

The video management server shall be designed for 19” mounting and require no more than 3U.

The video management server shall operate in a temperature range of +10°C to +35°C (+50°F to +95°F).

The video management server shall operate in a humidity range of 10-85% RH (non-condensing).



Hardware requirements

The video management server shall meet or exceed the following design specifications:

- Be equipped with an Intel XEON E5 processor or better
- Be fitted with a minimum of 8GB RDIMM RAM or better
- Contain at least 4x 1000BaseT Ethernet network port
- Be equipped with a minimum of 6x 4TB 7200 rpm hard drives with NTFS-file system and SATA 6Gb/sec
- Support Direct Attached Storage extension using SAS-cable.

Software requirements

The video management system shall be a true digital IP-based open platform system based around a video management server and separate video management clients and video management apps for viewing and managing information.

The video management server shall provide full functionality for the supported number of cameras when operated in the following environment:

- Microsoft Windows 10 IoT Embedded 64-bit
- Latest Microsoft .Net runtime environment installed

Functionality – Video Management Server

The video management server shall accept video and audio from network cameras and video encoders compliant with the VAPIX open API

The video management server shall accept video and audio from network cameras and video encoders compliant with ONVIF Profile S or relevant as published by the ONVIF organization.



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The video management server shall support communication and functionality provided by network panels compliant with the VAPIX open API

The video management server shall be able to record at least 48 individually configured full frame rate video streams in Full HDTV 1080p (1920x1080 pixels) over IP networks.

The video management server shall, when operating in a fully supportive environment, be able to record full frame rate video streams in 4K Ultra HD (3840x2160) over IP networks.

The video management server shall provide a total recording capacity of at least 3000 frames per second.

The video management server shall support 512 Mbps total throughput

The video management server shall, for each channel:

- Support Motion JPEG recording in a selectable range up to 30 fps
- Support MPEG4 Part 2 recording in a selectable range up to 30 fps
- Support H.264 recording in a selectable range up to 60 fps
- Support High Profile H.264 decoding in up to 60 fps
- Support H.264 with automatic scene adaptive bitrate control in up to 60 fps.

The video management server shall support the use of wide angle / 360 camera.

The video management server shall allow for video to be transported over:

- Multipart HTTP (Unicast)
- RTP over RTSP over HTTP (Unicast)

The video management server shall support full duplex audio encoded with the video stream and shall support the following streams:

- AAC LC at 8/16 kHz



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- G.711 PCM at 8 kHz
- G.726 ADPCM at 8 kHz

The video management server shall support the following Input /Output functionality:

- Accept notifications and alarms from an unlimited number of auxiliary devices connected to the network
- Received notifications and alarms shall be able to generate events within the video management system

The video management server shall support the following access control functionality:

- Accept notifications and alarms from an unlimited number of access control units connected to the network
- Received notifications and alarms shall be able to generate events within the video management system

Functionality – Video Management System.

The proposed solutions **MUST** provide the following components and functionality;

	Specification	Compli	Comments
1	The system shall be of an enterprise nature, able to manage multiple sites remotely.	Mandat ory	
2	The system shall provide a complete, remote setup and maintenance client And The system shall not rely on remote desktop applications for remote connection.	Mandat ory	
3	The system shall not require a dedicated management server, thus requiring less hardware.	Mandat ory	



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4	The system shall be of a 'client/server' nature with the following components: <ul style="list-style-type: none">• Recording Management Servers.• On and off-site client viewing and management stations.• Off-site Cell Phone/Tablet clients.• Alarm Management Server.	Mandatory		
5	The system shall be capable of running in Windows (32/64-bit) or Linux operating system environments.	Mandatory		
6	The system shall be capable of running in a virtual machine environment.	Mandatory		
7	The system shall be aware of running in a virtual server environment, and will have knowledge of the underlying hardware.	Mandatory		
8	The system shall be easily expanded by the addition of recording servers, viewing and management servers and storage.	Mandatory		
9	The system shall be able to perform all setup and viewing functions via this remote connection.	Mandatory		



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11	The system shall store complete site configuration on- or off-site for retrieval in the event of hard drive failure.	Mandatory		
12	The system shall allow this configuration to be easily re-instated.	Mandatory		
13	The system shall maintain user activity logs. And the system shall enable all sub-systems on site to be time-synchronised.	Mandatory		
14	The system shall manage an unlimited number of Inputs and Relay Outputs.			
15	The system shall provide setup wizards for fast, simple addition and configuration of certain devices and objects, such as camera, integrated devices, site maps, etc.			
16	The system shall use Universal Plug and Play (UPnP) and ONVIF Device discovery to discover IP devices and retrieve the settings from those devices.			
17	In order to ensure that there is fast access and bandwidth management for remote client connections, all site resources, maps, and other site-specific parameters shall be downloaded and stored locally at the remote client's location. If they have been modified at site they are to be re-loaded from the site to the remote client connection upon re-connection.			



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18	The overall system shall have no limit to the number of cameras/video streams.			
19	The system shall be a digital video/audio recording and remote monitoring system with the capability of simultaneously displaying, recording, automatic archival, replaying, searching, and transmitting both video and audio.			
20	The system shall be truly hybrid in nature, and shall be capable of supporting the following video sources: <ul style="list-style-type: none">• IP video cameras.• IP video encoders (Cathexis and 3rd party).• ONVIF compliant devices.			
21	Each recording management server shall be capable of managing multiple IP camera video streams, limited only by hardware processing capability, and available local/remote system storage.			
22	The system shall manage the live streaming, recording, and reviewing of both video and audio from the various sources.			



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23	The system shall be capable of managing video from both analogue video cards, and IP video sources simultaneously. Also be capable of managing simultaneous MJPEG, MPEG4, H264, H265 and MxPEG, and a combination thereof, according to the camera capability.			
24	The system shall be capable of managing either Unicast or Multicast video streams.			
25	The system shall be capable of displaying video in HD or higher where required, also be capable of managing dynamic streams, and intelligently selecting the camera stream based on the display resolution of either client, server and/or video wall to improve live viewing efficiency and reduce resource usage.			
26	The system shall be capable of “trans-coding” video streams to a lower bandwidth, for off-site monitoring (subject to the availability of suitable video streams & the processing power of the video servers).			



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	27	<p>The system shall be capable of receiving, and storing, synchronised audio from cameras with audio capability. Also be able to record and playback synchronised audio and video. Assuming that the source audio and video is synchronised on the camera, the system shall be capable of maintaining this synchronisation to less than 500 milliseconds.</p>			
	28	<p>The system shall be capable of managing bi-direction audio, from the system to a remote IP device, or camera, with the relevant audio capability.</p>			
	29	<p>The system shall be capable of streaming/storing and playback of an unlimited number of camera audio streams.</p>			
	30	<p>The system shall provide a “copy and paste” capability which will enable users to easily copy camera settings, including information from multiple video streams, across multiple cameras.</p>			
	31	<p>The system shall enable the administrator to designate a camera as “covert”. In this case, the camera should only be seen and viewed/reviewed by administrators</p>			



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32	The system shall enable users to drag-and-drop cameras, from a map, into selected monitors or panels on the monitor.			
33	The system shall provide the capability to create and save multiple “layouts” of cameras that can then be easily selected, either manually by a user, or automatically on an event.			
34	The system shall enable the user to “de-warp” video from 180 or 360-degree panoramic cameras.			
35	The system shall enable the user to view up to 64 cameras on a single monitor.			
36	The system shall enable users to digitally zoom into specific camera views.			



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	<p>37 In review, the system shall be capable of dividing a user-defined time period into a user-defined matrix of thumbnail images. The user to narrow the defined search period between displayed snapshots by click-and-dragging between desired thumbnails. The thumbnail matrix will be reconfigured for this new search period.</p> <p>The system shall be capable of defining search time periods according to seconds, minutes, hours, days, and weeks.</p> <p>The system shall be capable of playing recorded footage starting from a particular thumbnail in both the operator interface video player and in the Snap-Search window embedded video player.</p> <p>The system shall be capable of archiving video from within the Snap-Search window embedded video player.</p>			
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	<p>38 The system shall provide Video Wall software to be run on computers dedicated to showing video feeds. The system shall be capable of displaying multiple site cameras on video wall monitors. The system shall be capable of controlling multiple monitors attached to multiple computers from a single point via a MIMIC panel. The system shall be able to drag-and-drop cameras into place for display on the video wall from sites other than the monitor site. The system shall allow administrators to configure video wall camera layouts, tour of layouts (salvo), and access rights to video walls.</p>			
	<p>39 The system shall have its own analytics and algorithms, built in to the software, to be used as event triggers. This will include video motion detection, and object tracking analytics.</p>			
	<p>40 The system shall allow video analytics to be configured on live and recorded footage.</p>			



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41	<p>The system shall be capable of utilising the on-board analytics on the I.P. camera or encoder to initiate an event with which selected actions can be associated. The system shall be capable of integrating with third-party analytics suites.</p>			
42	<p>The system shall have built-in Video Motion Detection (VMD) algorithms, and will be capable of performing these on video streams received. The system shall offer the following Basic and Smart VMD options.:</p> <p>Basic VMD</p> <ul style="list-style-type: none">• Basic motion detection algorithm.• Basic noise suppression. <p>Smart VMD</p> <ul style="list-style-type: none">• Advanced filtering out of repetitive motion like trees or grass.• Tracking light charges.• Advanced motion detection algorithms designed for outdoor scenes.			



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43	<p>The Basic and Smart built-in motion detection shall have the following features:</p> <ul style="list-style-type: none">• Variable sensitivity.• Size masking.• Reject objects smaller/larger than a specified size.• Multi-zone VMD areas per camera with the ability to vary sensitivity in each zone.• A day/night setting capability to enable different VMD settings for day and night.• Automatic day/night switching or switching at specified times are to be optional.• A schedule which enables/disables selected VMD event triggers at certain times of day.			
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	<p>44 The system shall be capable of providing basic, intermediate, and advanced video analytics options. The system shall be able to trigger events based on the triggers generated by the basic, intermediate, and advanced analytics.</p> <p>The system offers the following event trigger options:</p> <ul style="list-style-type: none">• Basic Analytics.• Basic line crossing triggers.• Basic presence triggers.• Intermediate Analytics.• Advanced line crossing triggers.• Advanced presence triggers.• Advanced Analytics.• Advanced line crossing triggers.• Advanced presence triggers.• Speed detection.• Size and direction filters.			
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	<p>45 The system shall provide the following head counting algorithms and capability options:</p> <ul style="list-style-type: none">• Top-down head tracker; algorithm on a 3D/standard colour camera looking straight down offers event triggering when heads cross a line.• Oblique Head Tracker; algorithm on a 3D/standard colour camera mounted at an angle offers event triggering when heads cross a line.			
	<p>46 The system shall offer event triggering when a queue exceeds a certain length.</p>			
	<p>47 The system shall come standard with camera tamper detection video analytics. Camera tampering includes:</p> <ul style="list-style-type: none">• Lens covering (e.g. spray-painting)• Camera moving,• Lens re/un/de-focusing.			



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	48	<p>The system shall provide the facility to link physically proximate cameras in the software, and to be able to be able to easily navigate between the linked cameras in the operator interface to follow objects/suspects which move across multiple cameras.</p>			
	49	<p>In review, the system shall be capable of selecting certain areas of the camera image to search recent motion within the selected area.</p> <p>The system uses motion data collected to the Motion Database to indicate recent motion in the selected area.</p> <p>The system shall display all motion in the selected area as red motion bars along the camera review timeline; the higher the motion bar, the more motion in the selected area at that point in the recording.</p>			



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	50	<p>The system shall have the capability to integrate 3rd-party products and devices.</p> <p>The system shall not run 3rd-party integrations as plug-ins in the client of the software.</p> <p>The system shall not require additional management servers to run the 3rd-party integration services.</p> <p>The system shall centralise all integrations to one point in the software.</p> <p>The system shall be capable of configuring databases specific to each integration, using integration specific drivers.</p>			
	51	<p>The system shall include automatic license plate recognition as an optional feature.</p> <p>The system shall integrate with three categories of ANPR engines:</p> <ul style="list-style-type: none">• 3rd-party ANPR algorithms, which send ANPR triggers to the VMS;• ANPR Cameras, with built in ANPR-detection, which send triggers to the VMS; and• ANPR engines which are built-in to the VMS, and which are unlocked with the relevant licenses.			



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	<p>52 Support multiply libraries of languages and license plate characters, including Arabic. Support the configuration for detection of number plates for the following detection solutions:</p> <ul style="list-style-type: none">• Triggered Solution, which uses a physical trigger to initiate a detection (such as a ground loop, IR beam or VMD solution), and• Free Flow Solution, which detects license plates of moving vehicles.			
	<p>53 The system shall include the ability to group number plate data into specific categories such as Visitors, Staff, Whitelist, Blacklist etc. The system shall be capable of configuring the following traffic analysis rules which generate system messages when defined traffic patterns are detected:</p> <ul style="list-style-type: none">• Visit location rule triggers if a license plate is seen at the same location multiple times.			



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	54 The system shall be capable of n:1 and n:n server failover. A failover server can assume the functions of any failed server. A hot-spare structure will be used to accomplish this.			
	55 The system shall be capable of failing over the Master/Management Server, and all associated functions, including but not limited to: <ul style="list-style-type: none">• Recording and reviewing video.• Viewing live video, including video wall control functions.• Events configuration and management.			




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	56	<ul style="list-style-type: none">• The failover server will continually monitor management and recording servers.• The failover server will assume the functionality of a failed server, allowing site functions to continue.• The system will automatically re-insert video on the original recording server's database on recovery of the failed server.• The system shall generate an alarm if a site server fails and is failed-over.• The system shall generate an alarm if a failover server is down.• The system shall provide a Site Overview feature which displays all site servers, indicating the server being failed-over.			
	57	The system shall offer extensive reporting on hardware and software comprising the site by keeping technical logs and allowing for the generation of technical reports.			

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	<p>keeping technical logs and allowing for the generation of technical reports.</p> <ul style="list-style-type: none"> • The system shall restrict access to configuration of technical reports to administrators only. • The system shall allow users to save their reports as “templates” for easy generation of future reports. • The system shall be capable of generating server/hardware-specific technical reports on the following: <ul style="list-style-type: none"> a. Camera failures, logs, status and time to repair. b. Database Usage: c. Breakdown by camera. d. Rate by camera/hour/camera per hour. e. Event frequency histogram. f. Events by hour. g. Disk. h. Environment. i. Events. j. File Systems. k. Hardware. l. License Features. m. Licenses. n. NTP Queries. o. Reboots and cause of reboots, including: p. Software server reboots. q. Power failure reboots. r. User reboots. s. Remote user reboots. t. Time of reboot. u. Recording setup and configuration, times (of the system per camera), and recording failures. v. System setup and configuration. w. Software server failures. x. Unit Up-time. 		



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57	<p>The system shall have provision for a forensic tool which offers site analysis and troubleshooting to obtain the following historical site server data:</p> <ul style="list-style-type: none">• Network camera summary – total network throughput, drop ratio, and count of camera stalls.• Database writes - disk writing bitrate, and drops to local or network storage.• Dropped packets – external network, internal UDP between servers, and internal video frames.• Video streaming – sent, received, and decoded for live viewing.• Software compressor – encoded and decoded pixel rate, and percentage of frames.• Internal messaging – UDP packets missed and received between processes, and number of logs per minute sent.• Video frames – missed and received between internal processes.• The system shall have provision for a forensic tool to troubleshoot and obtain the following historical camera-specific data:• Network cameras – bitrate, dropped packets, cameras stalls, camera down, and number of events per camera.• Database cameras – bitrate, bytes written to disk, camera down, and number of events per camera.			
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58	<ul style="list-style-type: none">• The system shall automatically install a multi-layer interactive map facility upon installation of the VMS server/client software.• The map facility shall be hierarchical with “drill-down” capability.			
59	<p>The Map Editor interface shall be able to do the following:</p> <ul style="list-style-type: none">• Add/configure map objects (such as shapes, images and text).• Add site resources to map (such as cameras, integration devices, events).• Add actions to map objects.• Connect to site(s) and view site resources.			
60	<p>The system shall provide a free mobile application.</p> <ul style="list-style-type: none">• The system shall not require the installation of extra server-side software, additional plug-ins, or a special mobile server to enable the mobile viewing and reviewing of video.• The system shall make this application available on the Apple iStore and Google Play Store.• It shall be accessible via an HTTP interface.			



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61	The mobile app shall support the following functions: <ul style="list-style-type: none">• PTZ control of cameras.• Zooming in/out.• I/O Control.• Multiple camera view (up to four cameras).• Save details for multiple servers.		
62	The system shall include an Application Protocol Interface (API) which shall enable third party software to retrieve and manage information from the VMS, as well as control system resources.		

SCHEDULE OF COMPLIANCE

Bidders shall provide a schedule of compliance listing every sub clause of the following technical requirements, with the words “**complied**” or “**not complied**” in line with the capabilities of the quoted solution.

The word complied shall be used where the requirement is an integral part of the proposed solution.

The use of the word “**Noted**” is inadequate and will be equated to “not complied”. Where a clause is stated to be “not complied”, but the Bidder feels that the capabilities of the system offered provide for an alternative but equally effective functionality, the Bidder can mention it. These clauses will be qualified by “not complied with, but alternative is offered”.

The “alternative” offer will be limited to three options where the tenderer shall provide details on whether: -



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Third party interface(s) will be required to comply with the requirement,
Customization will be required to comply with the requirement,
The requirement is part of another requirement (indicate the other requirement)

The cost of third party interfaces and/or customization shall be included in the tender price schedule.

The Bidder shall provide enough documentation to back up their compliance claims. Reference to these documents should be direct and specific.

Tenderers must specify in detail their proposals to meet the specification of functional and technical requirements and cross reference their response to them. Attention should be paid to demonstrating how the requirements will be met.

Infrastructure

The site has existing network infrastructure in place, bidders are encouraged to plan cable routes accordingly as per site survey conducted and to provide estimates for any additional works deemed necessary to complete the installation.

SCHEDULE OF REQUIREMENTS AND PRICES

Please find enclosed the Schedule of Requirements and Price Schedule

CCTV DIAGRAMS

Please find enclosed the National Oil Corporation floor plan with proposed CCTV locations.



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In order to give the tenderers ample to time to effectively respond to the tender as per this 1st Addendum of the tender the Cover Page, Clause 1.7, Clause 2.17.2 (b), Clause 2.18.1 and Clause 2.20.1 that give the tender closing time and date as November 10, 2017 at 1000hrs (East Africa Time) has been amended and **the tender closing date and time has been changed to November 17, 2017 at 1000hrs (East Africa Time)**

Bidders who have already submitted their tender documents and wish to amend them after this 1st addendum prior the tender closing date and time (**November 17, 2017 at 1000hrs**), can do so by submitting additional documents clearly labeled “**amendment/addition to the tender for Supply, Installation, Testing, Commissioning and Maintenance of CCTV at Kawi House – REF NO. NOCK/PRC/03(1308)2017-2018**”.

Except as clarified herein, all the other terms and conditions of the tender remain as is and are unchanged.

CHIEF EXECUTIVE OFFICER

Enclosed:

- a. *CCTV Drawings*
- b. *Schedule of Requirements and Price Schedule*